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Formal and Functional Properties of Grammatical Aspect in Ayt Atta Tamazight

Simone Mauri

A thesis submitted for the degree of

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Department of Linguistics

The School of Oriental and African Studies

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Declaration

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Abstract

The primary aim of this thesis is to provide a description of the aspectual system of Ayt Atta Tamazight (henceforth AAT), a Berber language spoken in south-east Morocco. The thesis focuses on the role of aspect in narration and shows that the association of stativity with perfective marking and the properties of the chained-aorist construction jointly contribute to the observed distribution of verb forms in discourse.

Furthermore, my thesis investigates the chained-aorist construction and proposes a novel analysis of it. The close scrutiny of AAT chained-aorist constructions suggests downplaying the role of sequentiality from the centrality previously attributed to it: even data from typically-sequential texts such as main storylines show the limitations of any account of aspect in discourse solely resting on the notion of sequentiality. This work suggests analysing the AAT chained-aorist construction in terms of initial-consecutive clause chaining. The initial-consecutive chaining form is analysed as a narrative device adopted to ensure textual cohesion.

The analysis put forward here rests on an investigation of chained-aorist constructions across Berber alongside a cross-linguistic overview of the formal properties of clause chaining: this shows the previously-unreported presence of striking similarities between Berber and a number of other languages, including many affiliated to the Niger-Congo language family. From a typological point of view, this proves that initial-consecutive clause chaining is not as rare as previously thought. The study is also relevant to areal linguistics, since it might point to the existence of a large linguistic area including Moroccan Berber and a number of Berber dialects spoken across the Sahara, as well as languages affiliated to the Niger-Congo family.

Another important outcome of this dissertation is a sketch grammar of AAT. This contributes to Berber dialectology by describing a variety spoken in an area little-investigated so far. It shows that AAT is similar to related varieties but still presents some specificity which will be of some interest to those scholars of Berber particularly interested in Berber typology and micro-variations.

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Second, the present dissertation has greatly profited from discussions with my colleagues and friends from the Department of Linguistics at SOAS, during both departmental seminars and student-led meetings and conferences. The variety of research interests and projects pursued by each one of them has contributed to enriching my linguistic knowledge and widening my interest in languages. My heartfelt thanks especially to two people: Lameen Souag, for having first showed me the path that leads to Berber, as well as for many discussions of Berber-related topics, and Aicha Belkadi, without whose support, constant encouragement, and expertise, this thesis would have not been completed.

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Abbreviations¹

-	morpheme boundary
=	clitic boundary
1	first person
2	second person
3	third person
A	agent-like argument of canonical transitive verb
AAT	Ayt Atta Tamazight
ABL	ablative
ABS	absolute
ACC	accusative
ADJ	adjective
ADV	adverb(ial)
AGR	agreement

¹ This work adheres to the *Leipzig Glossing Rules*, a set of ten *Conventions for interlinear morpheme-by-morpheme glosses*, (<http://www.eva.mpg.de/lingua/resources/glossing-rules.php>, last accessed on 4th August 2014). The abbreviation list includes most of such rules and has further been integrated with some-language specific categories (and their corresponding glosses) relevant to the analysis put forward in this work. A few more notes on the glossing policy adopted in this work are given in what follows, using the feature *masculine* (glossed: M) for illustrative purposes.

Masculine is unmarked in Berber: nouns need be analysed as masculine unless overt feminine marking is present. In order to minimise the cluttering deriving from interlinear glossing and increase readability, non-overt elements have generally not been glossed, unless in the event of a mismatch between the surface form of a word and its inherent gender/number/state features. For example, *ulli* ‘sheep’ is a feminine plural word, in spite of the fact that neither number nor gender is formally marked. The word has been glossed as follows:

‘sheep[PL](F)’

As the example shows, non-overt marking of number and/or state has been enclosed in square brackets, whereas round parentheses have been used to indicate that the inherent gender of an unmarked noun is feminine: this is in keeping with the rules set out in the abovementioned *Conventions*, in particular with rules 6 and 7, respectively.

ALL	allative
ANTIP	antipassive
AOR	aorist
APPL	applicative
Ar.	Arabic
ar-IPFV	particle <i>ar</i> with Imperfective stem
ART	article
AS	absolute state
AUX	auxiliary
B-AOR	bare aorist
C-AOR	chained aorist
CAUS	causative
COM	comitative
COMP	complementizer
COMPL	completive
COND	conditional
CONJ	conjunction
COP	copula
CVB	converb
da-IPFV	particle <i>da</i> with Imperfective stem
DAT	dative
DECL	declarative
DEF	definite
DEM	demonstrative
DET	determiner

DIST	distal
DISTR	distributive
DS	dependent state
DU	dual
DUR	durative
ERG	ergative
EXCL	exclusive
F	feminine
F-AOR	free aorist
FOC	focus
Fr.	French
FUT	future
GEN	genitive
IMP	imperative
IND	indicative
INDF	indefinite
INF	infinitive
INS	instrumental
INTR	intransitive
IPFV	imperfective
IRR	irrealis
ITV	itive verbal clitic ('thither')
LOC	locative
M	masculine
MED	medial

N-	non- (e.g. NSG nonsingular, NPST nonpast)
NEG	negation, negative
NPFV	negative perfective
NMLZ	nominalizer/nominalization
OBJ	object
OBL	oblique
P	patient-like argument of canonical transitive verb
PASS	passive
PFV	perfective
PL	plural
POSS	possessive
PRED	predicative
PRO	pronoun
PRSV	presentative
PRF	perfect
PROG	progressive
PROH	prohibitive
PROX	proximal/proximate
PST	past
PTCP	participle
PURP	purposive
Q	question particle/marker
QUOT	quotative
RECP	reciprocal
REFL	reflexive

REL	relative
RES	resultative
S	single argument of canonical intransitive verb
SBJ	subject
SBJV	subjunctive
SG	singular
Sp.	Spanish
TAM	tense-aspect-mood
TOP	topic
TR	transitive
VNT	ventive verbal clitic (‘hither’)
VOC	vocative

Notes

This short section provides guidelines to the conventions adopted throughout the text, notably regarding transcription, translation, and glossing.

Transcription

All transcriptions of Ayt Atta Tamazight data follow the IPA transcription system. This clashes with some well-known practices in Berber studies, notably the transcription of IPA *j*, *ɛ*, and *ɜ*, with *y*, *ɣ*, and *j*, respectively: most works on Berber are then likely to transcribe *jannaj* ‘3SG.M.see.PFV’ as *yannay*, *ddik* ‘1SG.go.PFV’ as *ddiy*, and *taɜɜaɜt* ‘a type of lamp’ as *tajjajt*.

The rationale for the choice made in this work stems from the fact that the sound corresponding to IPA *ɣ* is an allophone of /g/ in Ayt Atta, and its use for transcribing a uvular sound would have generated confusion, especially in the section on ‘Phonology’; similar reasoning applies to the other symbols mentioned above.

All transcriptions of data from other dialects are provided as found in their published sources.

Translation

All secondary-literature translations into English have been accomplished by the author of the present work, unless otherwise specified. This includes entities such as excerpts, short quotations, and examples. References are always provided alongside the translation itself, so that the original source can be retrieved.

Translations from Ayt Atta Tamazight into English are always the result of the joint effort of some native speaker of this Amazigh variety and the author: native

speakers of AAT have produced French, Spanish, or Italian translations of some text or sentence, and these have subsequently been translated into English by the author.

Glossing

The present work provides full morphological glossing of all of the Ayt Atta Tamazight examples given. The glosses are based on the Leipzig Glossing Rules with some integrative language-specific categories (see ‘Abbreviations’ above).

Examples from other dialects or languages have generally not been glossed, but grammatical information relevant to the point at hand is indicated by the use of superscripts in the transcription.

Chapter 1

Introduction

The dimension of time is a fundamental component of human experience. The linguistic relevance of this notion is evident in the transposition of the time axis into grammar, the corresponding category being known as *tense* (cf. Comrie 1985).

There is a less obvious but not less important way in which the temporal dimension affects our experience and this has to do with how the “internal temporal constituency of a situation” is viewed (Comrie 1976: 3). The corresponding linguistic category is known as *aspect*.

Tense has been defined as a *deictic* notion since it expresses a temporal relation between the time of speech and one or more other times, variously referred to in the literature as time of event, point of reference, and topic time, among others (see chapter 7). On the other hand, aspect is not deictic, since it does not express a relation to the time of speech (Comrie 1976; Klein 1994: 18-20).

The categories of tense and aspect are orthogonal in that they may intersect and receive different expressions in any one language. However, an interrelation between these two categories does exist and this often leads to the neutralisation of one or more grammatical contrasts within a system: e.g. perfective marking often applies to past-tense situations (cf. Smith 2005).

The verbal morphology of Berber languages mostly expresses aspectual distinctions, whereas tense is mainly relegated to a place outside the morphology. Several factors affect aspectual interpretation and verb selection in narrative discourse: the understanding of such factors in relation to the aspectual system of a particular Berber variety is the primary goal of the present dissertation.

The Berber variety investigated in this thesis is the one spoken by the Ayt Atta, a tribe living in south-east Morocco: unless otherwise indicated, all of the data in the present work concern the Ayt Atta variety spoken by the Ayt Lfrsi, a fraction of the larger tribe which lives in the eponymous village.

This investigation aims at casting a fresh look onto a number of issues concerning the Berber aspectual system, in order to help bridge the distance between categories widely employed in Berber studies and the typological literature.

More specifically, the present dissertation pursues several goals. First, it presents a sketch grammar of the language spoken by the Ayt Atta of south-east Morocco. Its inherent significance stems from the observation that the documentation of Moroccan Berber varieties remains severely unbalanced. Some varieties have been thoroughly investigated (e.g. Figuig, Ayt Seghrouchen, and Ayt Ndhir), whereas the transitional area between Tamazight and Tashelhiyt in the south is still largely *terra incognita*, not dissimilarly from the situation originally described by Basset (1952: 2).² A grammar of Ayt Atta is an important contribution to the linguistic knowledge of southern-Tamazight dialects, which have hitherto received little attention in academic literature. The grammar also plays an instrumental role in providing a solid foundation towards the subsequent investigation of the role of aspectual distinctions in Ayt Atta narrative discourse.

² The French scholar defined the area where Tashelhiyt and Tamazight are spoken “a continuum.”

Second, this thesis analyses the formal and the semantic properties of the Perfective in Ayt Atta. Two main directions of research are undertaken, both adopting a cross-linguistic perspective: on the one hand, the focus is on the tight connection between stativity and Perfective, which is widely-attested across Berber; on the other hand, the work explores the impact of that connection onto the foreground vs. background distinction in discourse.

Third, the dissertation investigates the so-called *chained aorist* construction from a cross-linguistic perspective. This construction has received much attention in Berber studies over the past few decades. Nevertheless, a general lack of typological considerations against which to evaluate this structure is apparent. This work provides an account of the chained aorist construction while bringing it under the focus of linguistic typology. This also indicates new research directions in areal linguistics.

The present work is organised in two parts. The first part is a sketch grammar of Ayt Atta Tamazight: it provides general information about this poorly-described dialect and casts a close look at the formal properties of Ayt Atta verbs. The second part focuses on grammatical aspect in its relation to discourse structure and storyline concerns (cf. Longacre 1990): it first introduces the general literature on aspect and some of the factors known to affect the distribution of verb forms in discourse; it goes on to illustrate the functional properties of the three main stems of Ayt Atta Tamazight, against the background of Berber studies and the wider typological literature; finally, it summarises the findings and indicates the prospects for future research.

Ahead of moving to the presentation of Ayt Atta grammar, it is necessary to introduce the Berber language³ and its speakers, discuss matters of language classification, and provide some useful background information concerning the present work. This is done in the remainder of this chapter.

§1.1 Genetic classification and internal subdivision

This section discusses the genetic classification of Berber and its dialectal subdivision.

§1.1.1 Genetic classification of Berber

Past scholarship used to classify Berber languages in the Hamito-Semitic language family⁴ (Cohen 1988b: 1). That label entailed the existence of a Hamitic group as a well-defined entity opposed to Semitic. In fact, this is hardly the case, since no smaller differences exist among the supposed members of the Hamitic group than those attested between Hamitic and Semitic itself (Cohen 1988b: 1; Greenberg 1952: 1). For this reason, much of contemporary scholarship have progressively abandoned the term Hamito-Semitic. Popularised by Joseph Greenberg, the term Afroasiatic has become increasingly accepted in recent decades and will be used throughout this work.⁵

³ It is possible to refer to the “Berber language”, in the singular, to emphasise the unity of the language, and this is mainly the position of political activists; alternatively, it is possible to talk of “Berber languages”, in the plural, if the (undeniable) lack of mutual intelligibility is taken into consideration. This work does not take any stance on the problem and will use the singular or the plural interchangeably. Furthermore, the names *Amazigh* (pl. *Imazighen*) and *Berber* will also be used interchangeably when referring to Berber-speaking people.

⁴ This grouping makes reference to the Bible, notably to the names of Noah’s children, Sem and Cam, who were believed to be source from which Semitic and Hamitic languages sprang, respectively.

⁵ The idea underlying Greenberg’s terminological innovation is that “this family is the only one which is spoken both in Africa and Asia” (Greenberg 1952: 1).

According to Greenberg, languages belonging to the Afroasiatic family are ancient Egyptian (i.e. Coptic), Berber, Cushitic, Semitic, and Chadic (Greenberg 1952: 1; Greenberg 1955).⁶ Several features allow for their classification within the Afroasiatic group, such as the use of templatic morphology, the presence of strong similarities in the pronominal systems and in the set of subject-agreement markers, and the aspectual value of their verbal systems (Cohen 1988b: 1-29).

§1.1.2 Dialectal subdivision of Berber

Berber is spoken in the whole Maghreb over a vast area from Morocco in the west, through Algeria and Tunisia into Libya in the east, and even further east into Egypt, where the oasis of Siwa hosts its easternmost variety; further south, Berber languages are spoken by the Tuareg populations of southern Algeria and Libya, Mali, Niger, and Burkina Faso;⁷ an important Berber variety is also spoken by a little community in Mauritania.

Some remarkable differences often hindering mutual intelligibility are acknowledged in the literature (cf. Sadiqi 1998: 1-9). In particular, a few varieties are highly eccentric against the supposed unity of the language, a case in point being the Mauritanian dialect known as Zenaga (Kossmann 1999: 32-34). These differences were highlighted by one of the founding fathers of Berber studies, the eminent French scholar André Basset. In his classic introduction to Berber, he stated that “this language is scattered into a myriad of languages, possibly numbering from four to five thousand” (Basset 1952: 1).

⁶The inclusion of a sixth language family, namely Omotic, is controversial (Kossmann 1999: 13).

⁷ There are also large groups of Tuareg living in the south of both Algeria and Libya. Sadiqi states that Berber is also spoken in Senegal and Nigeria (Sadiqi 1998: 2).

However, the overall unity of Berber is usually recognised within Berber linguistics, as Basset himself refers to “the Berber language” in his famous work (Basset 1952). The substantial unity underlying dialectal diversity led Basset to the creation of an abstract entity known as *Pan-Berber*, an analytical tool against which to evaluate the behaviour of individual Berber varieties (Kossmann 1999: 15-16). This synchronic and fictitious dimension should not be confused with *Proto-Berber*, the diachronic reconstruction of the ancestor of the modern varieties (Kossmann 1999: 15-16).

A diachronic perspective is present in the work of several authors. The most important and best-known work is arguably Maarten Kossmann’s *Essai sur la phonologie du proto-berbère* (1999), which is an in-depth diachronic classification of Berber dialects based on their phonological features. The sheer amount of data from a large number of Berber varieties makes it the best contribution to the reconstruction of Proto-Berber to date.

The diachronic merits of Kossmann’s work do not overshadow the importance of his work for an actual classification of Berber dialects. In general, it can be argued that the classification of Berber dialects into macro entities does not pose particular problems, as it is possible to individuate several groups, including Atlas, Zenati, Kabyle, Tuareg, alongside a number of dialects which are part of the Eastern-Berber family.

The classification is more complex at the micro-level, as the effort is often hindered by the uneven level and quality of documentation of individual varieties. On the one hand, many Eastern-Berber dialects are poorly described, with the notable exception of the one spoken in Siwa, which has been thoroughly investigated in recent years (Naumann 2012; Souag 2013; Vycichl 2005). Moreover, many

publications concerning Libyan dialects as well as several works on Moroccan and Algerian varieties date back to eras predating the appearance of modern phonology or provide pre-phonemic analyses. As observed with regard to Paradisi's notation of Awjila's texts (Paradisi 1961), the notation system adopted by the author "is highly explicit in phonetic detail, and does not aim at a phonemic representation or analysis" (van Putten 2013: 16).

Other descriptions suffer from the use of non-phonetic orthography (mainly French, the language of large part of Berber-related publications). More generally, sections on morphology usually outrank those on syntax and semantics in older publications.

This is tantamount to say that the level of documentation of individual varieties still appears to be rather uneven. Nevertheless, many important lacunae have certainly been targeted and filled in recent years. The next section briefly sketches some important recent publications in Berber linguistics. The section does not include works on Moroccan Berber, which are discussed in §1.3.

§1.1.3 Recent literature on Berber

Recent contributions to Berber linguistics have been very diverse in terms of approach and regional focus. For instance, some previously-documented dialects have now been investigated in more depth and from new perspectives: this characterises e.g. works on Siwi (Naumann 2012; Souag 2013) and Kabyle (Belkadi 2010).

Other studies have shed light onto previously little-known dialects, eventually providing contributions of paramount interest from both a synchronic and a

diachronic perspective: an example of this is Taine-Cheikh's production on Zenaga (cf. Taine-Cheikh 2008; 2010a).

Some publications have somehow widened the Berber world either by focusing on varieties whose affiliation to Berber was long neglected or by investigating language-contact phenomena involving Berber: this is the case with works on Tetserret (Drouin 1984; Lux 2013) and on Tadaksahak, a Berberised Songhay language of Mali (Christiansen-Bolli 2010), respectively.

A wholly-different approach was undertaken by Múrcia Sànchez, whose work of enormous scope and detail has shed light onto previously-obscure stages of ancient Berber via the analysis of Greco-Latin sources (Múrcia Sànchez 2010). A similar historical perspective pervades Brugnatelli's analysis of the language of the *Kitāb al Barbarīya*, a centuries-old commentary to the medieval religious text known as *Mudawwana*: the commentary is the only ancient Eastern Berber text ever found and its interest for comparative studies is obviously paramount (Brugnatelli 2011).

On a different note, some important works on previously-published sources has brought much-awaited fresh knowledge on Awjila (van Putten 2014), Ghadames (Kossmann 2013a), and Ayer Tuareg (Kossmann 2011).

Finally, two general publications on Berber have been published in recent years. Kossmann (2012) is a thorough albeit succinct overview of Berber's main features by one of the most authoritative scholars, whereas Lionel Galand's outstanding 'glances' on Berber certainly represent the culmination of a lifetime exploration in Berber linguistics (Galand 2010).

This brief excursus can only indicate some of the important contributions to Berber studies which have appeared in recent years. Furthermore, as mentioned above, publications on Moroccan Berber dialects have been left off the list and are

to be discussed in §1.3. Before approaching some of the issues concerning the classification and documentation of Moroccan Berber, it is useful to draw a sketch of the sociolinguistic status of Berber across the Maghreb, with special focus on Morocco.

§1.2 Moroccan Berber: sociolinguistic sketch

Berber people are believed to have inhabited northern Africa since pre-historical times (Brett & Fentress 1996; Camps 1996). Berber-speaking populations came in contact with several populations throughout their history. For instance, it is well documented that the Roman domination of large parts of North Africa left behind limited but important lexical relics in local Berber varieties, words which eventually spread across a large part of the Berber-speaking world (Brugnatelli 1999; Kossmann 2013b; Múrcia Sánchez 2010).

The advent of the Islamic era meant that Arabophone tribes started to migrate into Berber-speaking territories and eventually settled over large part of North Africa. Due to the socially-dominant role acquired by Arabic, Berber's presence in urban centres started to become less prominent. Berber remained strong in marginal, mountainous areas, although there are important exceptions to this geographic marginalisation: two notable cases are the variety spoken in Zuwarah, a Libyan town by the Mediterranean coast, and the one spoken in the Sous region of southern Morocco, whose main centre is the town of Agadir. On the whole, the distribution of Berber languages nowadays reminds of “a group of islands not submerged by the tide of Arabic dialects” (Galand 1988: 207).

In Morocco, the Arabic and the Berber language coexisted for centuries in urban areas, whereas monolingualism in Berber often survived in rural regions. Arabic

enjoyed high prestige and was used in the domains of religion and education, and in general in all formal and written contexts, whereas Berber, traditionally a spoken language, was confined to less prestigious domains (Marley 2005: 1487).

The colonial era complicated linguistic issues further, as the French language was introduced as “a new ‘H’ language” (Marley 2005: 1488).⁸ French acquired high status and its knowledge was essential in order to advance one’s career in any public domain. In addition to becoming the new language of administration, it would also acquire a dominant role in education.

The process of Arabisation, which kicked off with the country’s independence (1956), culminated in the replacement of French with Arabic in the abovementioned official domains. Several institutions were created to implement this Arabisation policy, such as the *Bureau permanent d’arabisation*, created in 1963, and the *Institut d’Etudes et de Recherches pour l’Arabisation (IERA)*, which was also interested in the status of Moroccan Arabic dialects (Durand 2004: 33).

Despite its diminished official role, French has never ceased to be used in the country: its status as the vector of modernisation and social recognition has been implicitly acknowledged by “members of the elite, many of them directly involved in decisions to promote Arabisation, who nevertheless [would] send their own children to French schools, while preaching Arabisation as best for the masses” (Redouane 1998: 200).

Although the policy of Arabisation was mainly implemented to contrast French, the language of the colonisers, it also ended up putting a strain on all local dialects:

⁸ That is, a new ‘high’ language.

the result was that anything which was Berber-related was regarded “as a regional detail, synonymous with inferiority and ignorance” (Marley 2005: 1489).⁹

The process of Arabisation was by no means restricted to Morocco. Other countries adopted an even harsher stance towards Berber, which was banned from all public domains, with those advocating their cultural and linguistic rights being persecuted if not downright eliminated. The blatant denial of language diversity and the adoption of homogenising narratives also led some governments to downplay the linguistic differences between Arabic and Berber, in an attempt to eradicate all requests of autonomy formulated by Berber groups.¹⁰

Nevertheless, this policy never achieved the complete Arabisation of Morocco and Berber remained strong as the language of household and community life in rural areas. In recent decades, an increasing demand for cultural and language rights started to grow within Berber communities and this eventually brought about dramatic changes from the late 1990s onwards, which essentially acknowledged the failure of Arabisation (Marley 2005: 1489).

The progressive institutionalisation of Berber inaugurated a more liberal attitude towards language diversity and the study of European languages was (re)introduced in the school system. As for the Berber issue, this new era undoubtedly opened up opportunities for Berbers too. The Rabat-based *Institut Royale de la Culture Amazighe* (IRCAM) was created in order to implement the newly-adopted language policies: the IRCAM is now responsible for a range of publications on the Amazigh

⁹ Such an assumption seems to motivate Redouane (1998). It is striking to notice how, after having mentioned the presence of Berber groups throughout the country's history, the author moves to an analysis of the issues faced by the Arabisation process without even mentioning those Berber groups anymore.

¹⁰ A case in point is Libya, where the official position of a government-led research institute regarded Berber as a dialect of South-Arabic (Prof. el-Aswad, p.c., Tripoli, 23 December 2010).

language and culture, which are also promoted via the organisation of festivals and other events.

Furthermore, the IRCAM was also responsible for the standardisation of Moroccan Berber varieties into a language eventually able to stand on a par with Arabic as the official language of the country (following constitutional changes in 2011). This is arguably a good example of the transformation of abovementioned Pan-Berber “from a scientific abstraction into a practical tool” (Kossmann 1999: 15).

The newly-standardised language has been introduced in the national curriculum and three academic departments organise courses in Amazigh studies. New cohorts of young teachers of Amazigh are trained in those departments with the aim to fill hitherto-vacant positions in villages and towns across Morocco.

§1.3 Moroccan Berber: dialect classification and literature review

According to Kossmann (1999), Moroccan Berber dialects belong to the *Northern Berber* subgroup of the Berber language family. Every attempt at classifying Moroccan dialects is somewhat arbitrary, since all varieties are part of a dialect continuum (Basset 1952: 2; Durand 1998: 33). However, scholars have traditionally divided these dialects into three main varieties, namely, from north to south, *Tarifit*, *Tamazight*, and *Tashelhiyt*. The rationale underlying this classification is illustrated below alongside a short description of the regions where these dialects are spoken.

The main division is the one between *Zenati* and *Atlas* dialects. The former include Tarifit and some local varieties such as the one spoken by the Ayt Seghrouchen tribe, in addition to a number of dialects spoken beyond the Algerian border (Kossmann 1999). Tarifit is native to 1,270,000 people in the northern-

Morocco mountainous region of the Rif and is also used by large communities of Rif people living in the diaspora (Lewis et al. 2014).

Destaing already recognised the divergent character of Tarifit back in the 1920s, pointing to a resemblance between this dialect and the ones spoken across the Algerian border (Destaing 2001-2002: 87). The affiliation of Tarifit to the Zenati subgroup has been more recently confirmed by Kossmann (Kossmann 1999: 31-32). A study on mutual intelligibility has further confirmed the divergent nature of Tarifit vis-à-vis other Moroccan Berber dialects (Sadiqi 1998: 8).

Several publications on Tarifit exist. Lafkioui is the author of some important research on Berber prosody (Lafkioui 2006; Lafkioui 2009), on negation (Lafkioui 1996), and of an excellent linguistic atlas on dialectal variation in Tarifit (Lafkioui 2007), among other works.

The second large group of Moroccan dialects are referred to in the literature as *Atlas* dialects. These are further divided into two subgroups, namely *Tamazight* and *Tashelhiyt*. Tamazight is spoken by 2,340,000 people (Lewis et al. 2014) across a wide area from the centre-north of Morocco down to the eastern part of the Anti-Atlas region, near the Algerian border. Its speakers are also known as *Berber* and the language as *Tabrbrit*.¹¹ More information on Tamazight is provided in the next section.

Tashelhiyt is a dialect of south-east Morocco numbering 3,890,000 speakers (Lewis et al. 2014). Although it is sometimes known by the name *Tasousit*, it must be noticed that Tashelhiyt includes Tasousit rather than being synonymous with it, since the term *Tasousit* specifically refers to the Berber variety spoken in the Sous plains, whereas Tashelhiyt extends beyond that area. It is worth noticing that

¹¹ Both names *Berber* and *Tabrbrit* are obviously related to *Berber*: the first is arguably an Arabic word with plural reference, whereas the latter shows the typical circumfix of Berber feminine nouns.

Tashelhiyt is sometimes used as an indigenous ethnonym even by people who speak Tamazight.

Tashelhiyt is the language of a significant and thriving audiovisual production, consisting of items such as songs, films, and documentaries. Incidentally, this production is now broadcast nation-wide, proving quite popular even outside Tashelhiyt-speaking regions, such as in the area inhabited by the Ayt Atta.

Tashelhiyt is also a language with an important literary tradition. A thorough account of the literature of the Sous region is provided in van den Boogert (1997), which also contains a transcription, translation, and commentary of what is possibly the most important literary work in Tashelhiyt, known as *Baḥr al-Dumu*.

As for actual text collections, Harry Stroomer is the propulsive force behind many of the documentary works on the large corpus of oral literature found across the Tashelhiyt-speaking region (Stroomer 1998; Stroomer 2001; Stroomer 2003; Stroomer 2004).

§1.4 Introduction to Tamazight

This introduction to Tamazight starts with an important caveat on the term *Tamazight* itself. The use of the name *Tamazight* is somewhat ambiguous since it has been employed both in a wide sense, as a cover term for any Berber language, and in a narrow sense, as the name indicating a particular Moroccan dialect, namely the one spoken across a wide area from the centre-north of the country down to the eastern part of the Anti-Atlas region (cf. Amaniss 2009).¹² It is this narrow sense of *Tamazight* which is referred to throughout the present work, whereas *Amazigh* and

¹² This Moroccan dialect is also known as *Berber* in the literature.

Berber are indifferently used to indicate any dialect of the language family, or the language family as a whole, as specified.

Several linguistic and metalinguistic factors allow for the recognition of Tamazight as a separate dialect, including specificities of the vocabulary and the verbal system.¹³ In addition to these, self-reference as Tamazight speakers is often regarded as an important factor which testifies to the speakers' awareness of belonging to a distinct speech community. However, this does not seem to provide watertight evidence (cf. §1.5).

Finally, the fact that mutual intelligibility within a certain area entails the mutual relatedness of the varieties spoken therein has also been mentioned as a relevant factor in dialectal classification: a case in point was represented by the *imedyazen*, itinerant poets who would only travel as far as their audience could understand them, which is taken to imply the mutual relatedness of the varieties spoken over that territory¹⁴ (Galand-Pernet & Zafrani 1970: 13; Galand 1988: 212; Roux 1928). In other words, the circumscribed area over which they would practise their oral art is regarded as having been dialectally homogenous and this metalinguistic factor is assumed to confirm the existence of Tamazight as a separate entity.

However, in spite of the previous considerations, Tamazight should not be conceived of as a single dialect with no internal variation, since this is far from being the case (Kossmann & Stroemer 1997: 461). The name *Tamazight* then indicates a dialect continuum, or, more precisely, a set of related varieties classified as one entity by virtue of those linguistic and metalinguistic factors mentioned above.

¹³ These and the following points are deemed to be significant by the Centre de Recherche Berbère.

¹⁴ In his study on the *imedyazen*, Roux states that these poets would use a common variety of Tamazight, a sort of a poetic language which does not coincide with any particular Tamazight dialect (Roux 1928).

The dialectal variation displayed by Tamazight is at least partially accounted for by the mountainous character of the region where it is spoken, which undoubtedly hindered communication and favoured diversification.¹⁵ Another important element contributing to dialectal variation is arguably the tribal nature of the traditional socio-economic organisation.

Some authors distinguish northern dialects from southern ones (Durand 1998: 33-34), whereas others distinguish three dialects, roughly corresponding to the three mountain ranges of Middle Atlas, High Atlas, and Jbel Saghro (Destaing 2001-2002). In the present work a north/south division is assumed, and Ayt Atta is simply referred to as a southern-Tamazight variety.

As for the existing literature on Tamazight, the knowledge of particular dialects is very uneven, since northern varieties are on the whole far better documented than southern ones. Some important grammatical sketches of northern Tamazight describe the dialect spoken by the Ayt Ayache¹⁶ (Abdel-Massih 1971), the one spoken by the Ayt Nđir and the Ayt Yusi (Durand 1998), and the one spoken by the Ayt Nđir (Penchoen 1973). In addition to these grammatical sketches, it is worth mentioning Taïfi's dictionary of Tamazight, which is an important reference work (Taïfi 1991). A fundamental collection of northern (Middle Atlas) Tamazight texts depicting several aspects of traditional lifestyle is found in works by Arsène Roux (cf. 1928): these include a number of publications rescued from oblivion and republished in recent years (Roux 2007; Roux 2009).

¹⁵ Most of south-east Morocco has not been electrified until relatively recently (in fact, some villages still lack electricity), hence the communities living in the region have only recently started to be affected by mass media broadcasting and its homogenising language.

¹⁶ Abdelmassih's work is comparative in nature, as it also describes the Ayt Seghrouchen dialect, a Zenati variety.

The grammar of southern varieties is essentially undescribed. However, a few publications have become available in recent years. Originally published by Henry Mercier in 1937, Ayt Izdeg texts have recently been reedited and provided with a French translation (Mercier 2013). As for dictionaries, the Ayt Atta vocabulary by Amaniss (2009) is certainly worth mentioning (see §1.5 for a critical evaluation).

This essentially concludes the literature review on southern Tamazight. However, knowledge of southern Tamazight also comes from a somewhat unlikely source, namely the Judeo-Berber version of the Haggadah of Pesah collected in Tinghir (Galand-Pernet & Zafrani 1970). Judeo-Berber was spoken in Morocco over several centuries until its last speakers moved to Israel in the years following its creation. As is the case with other Jewish dialects spoken in the diaspora, Judeo-Berber is usually classified as a separate language,¹⁷ in spite of obvious similarities with Tamazight (Galand-Pernet & Zafrani 1970).

The present dissertation makes it possible to conceive of a comparative study of the local Tamazight vernacular and the Judeo-Berber dialect as recorded in the Haggadah, although this is beyond the scope of this work and will have to be undertaken on another occasion. However, it is important to notice that those Jews were likely to master the variety of Tamazight spoken in Tinghir, a town traditionally inhabited by a tribe known as Ayt Tdght. Some dialectal variation between the Ayt Tdght dialect and the one spoken by their Ayt Atta neighbours is certainly to be expected.¹⁸

¹⁷ Cf. Ethnologue (www.ethnologue.org, accessed on 17th May 2011, at 6h13pm).

¹⁸ In fact, Ayt Atta speakers are aware of such variation, at least as far as the phonetic realisation of certain sounds, some features of the intonation, and the presence of particular lexical items and expressions are concerned.

This short overview has shown that Southern Tamazight is on the whole little documented. The next section introduces the Ayt Atta, sketching the characteristics of their territory and their history. Furthermore, it briefly discusses the issue of mutual intelligibility with surrounding dialects and presents the little literature available on the variety they speak.

§1.5 The Ayt Atta of the Jbel Saghro

The Ayt Atta people represent an entity consisting of several groups which is described in the literature as a *supertribe*,¹⁹ rather than a confederation (Hart 1981; Hart 1984; Hart 1966). This is due to the fact that all of those groups trace their ancestry back to a common patriarch, a man who supposedly lived around the mid-sixteenth century: his name was Dadda Atta and this supertribe is named after him (Gerlings & Jongmans 1956; Hart 1981: 14).

The five branches of the tribe inhabit an enormous territory in south-east Morocco (henceforth Attaland, following Hart 1981; Hart 1984). The core of Attaland is the mountainous range of the Jbel Saghro (quadrants: 5°45' west, 31°30' north; from Hart 1981: 3). This region is characterised by extreme diversity of living conditions, since it includes several mountain ranges (Jbel Saghro and High Atlas) as well as the Saharan plains further south, towards and across the border with Algeria.

The Ayt Atta people are not the only Berber groups living in Attaland, as in fact they represent only one-fifth of the overall population (Hart 1981: 4). An almost continuous state of warfare plagued the area in the past: the Ayt Atta are still locally famous for having conducted aggressive campaigns against their neighbours, usually motivated by scarcity of resources and need for pastures. Among other tribes, those

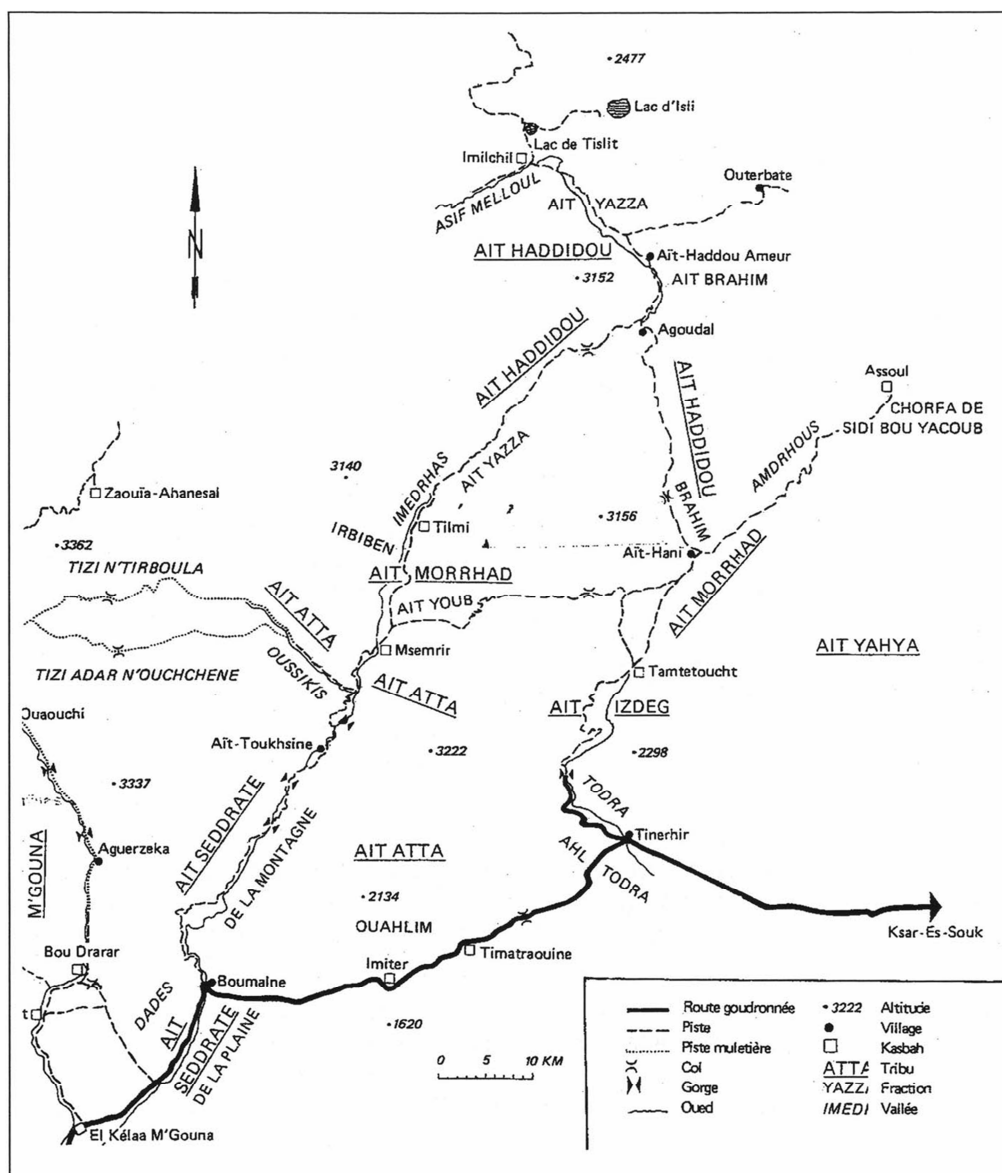
¹⁹ However, they are referred to as a *tribe* from now onwards, for the sake of simplicity.

neighbours include the Ayt Mrghad, the Ayt Hliddou (aka Ayt Hdiddou), and the Ayt Izdeg, tribes which eventually joined forces against the Ayt Atta and created the Ayt Yafelmane confederation in the XVII century.

The reputation of Ayt Atta as an aggressive tribe was further fuelled by their campaign against the French in the early 1930s. The battle of Bu Gafer (1933) still features prominently in stories and traditional songs.

The local economy was traditionally based on cattle, and transhumance was extensively practised in the past. As mentioned above, the quest for new pastures originated frequent clashes with other tribes in the past and motivated Ayt Atta's eventual settling over a very large territory.

A process of progressive sedentarisation went on for centuries, although it was very uneven: some fractions of the Ayt Atta were still almost entirely-nomadic as recently as the 1950s (Gerlings & Jongmans 1956: 11).



The territory inhabited by the Ayt Atta (from Encyclopédie Berbère)

As far as their language is concerned, Ayt Atta people refer to themselves as Tashelhiyt speakers, in spite of the fact that their dialect is certainly closer to Middle Atlas Tamazight than to Tashelhiyt.

As for dialectal variation, an article on the classification of Moroccan Berber dialects offers an Ayt Atta perspective on the issue of mutual intelligibility in the region²⁰ (Destaing 2001-2002: 86):

²⁰ Destaing's transcriptions have been adapted to the conventions used in this work.

« The Ayt Atta of the South-East effortlessly talk with their High Atlas neighbours (namely Ayt Merghad, Ayt Izdeg, etc...), they also talk easily with the Ayt Sadden, the Beni Mtir, the Igerwan, less easily with the Beni M'guild, the Zayan, the Zemmur, whereas it is only with some hesitation that they understand the Ayt Ntifa and the Ayt Buzid, whose language, they claim, is close to the one spoken in the Sous region ».

This is probably the only statement on Ayt Atta and the problem of mutual intelligibility with their neighbouring dialects to be found in the literature.

The dialect spoken by the Ayt Atta tribe was essentially unknown until the publication of an important dictionary on this variety by Ali Amaniss (2009). Previous lexicographic publications on Tamazight explicitly highlighted the lack of data on Ayt Atta (Taïfi 1991).

However, being a dictionary, it is little surprising that only scanty information about the grammar is provided. Furthermore, some decisions on transcription appear dubious. In particular, the issue concerning the status of schwa does not seem to be treated scientifically, as the author focuses on matters of readability rather than providing a principled account of the behaviour and status of schwa.²¹

Nevertheless, Amaniss (2009) represents a fundamental contribution to the lexical knowledge of Ayt Atta. To date, this is the only extensive work dedicated to this

²¹ This approach appears to be evident in what follows (Amaniss 2009: 684): « In order to better separate vowels and consonants and make reading easier, we introduce the neutral vowel *e*, a vowel to be ignored at the time of reading texts. For example, the word *ddelet* should be written *ddl* but in order to read it better, we introduce vowel *e* ».

variety. This means that the Ayt Atta grammar and especially the intricacies of this its verbal morphosyntax and the role of aspect in narration remain essentially unexplored.

The next section provides an overview of the literature on the expression of Tense-Aspect-Mood in Berber from both a synchronic and a diachronic perspective.

§1.6 Berber TAM

The investigation of Berber languages show that the combination of verb forms and preverbal particles is responsible for the expression of a number of meanings pertaining to the Tense-Aspect-Mood (henceforth: TAM) domain. There are significant differences across Berber, as far as the interrelation of particles, verb forms, and intended meanings is concerned. Notwithstanding the essentially-aspectual nature of the Berber verbal system, the presence of temporal and mood-related elements is attested too and discussed in the literature.

Despite the fact that Berber linguistics can boast a longstanding tradition, a number of issues remain on the whole little explored. For example, it seems that the value of some TAM particles has not been conclusively explained: statements concerning their standing in a relation of free variation are not uncommon in the literature (e.g. Boogert 1997: 279-80). In addition to this, the function of some verbal forms has been analysed in various ways, a case in point being the so-called Aorist (Bentolila 1981). The next section provides a brief introduction to TAM categories attested across Berber and how these have been analysed in the literature.

§1.6.1 Verbal categories in Berber

Berber verbal categories have been variously described in the literature, the focus having historically shifted from their formal to their functional-semantic properties.

Pioneering studies on Berber languages would usually adopt a Eurocentric perspective, analysing Berber verbal forms through the parameters of more familiar languages. For instance, Charles de Foucauld individuated a “present tense” in Tuareg, since that verbal form seems to be translatable with a French present tense. In fact, as shown by later research, that apparent present form is actually a resultative construction.

In general, older publications on Berber would identify three main verbal categories known as *accompli*, *auriste intensif*, and *auriste* (cf. Basset 1952).²² This classification emphasised the formal resemblance between the last two categories: the formal similarities between *auriste* and *auriste intensif* were accounted for from a diachronic perspective, since the latter was seen as having derived from the former. This morphology-based classification arguably relies on an older state of affairs, characterised by a contrast between *auriste* and *accompli*, with the *auriste intensif* playing a marginal role.

However, this situation has no currency in modern varieties of Berber, where the functional contrast is the one between the *accompli* and the former *auriste intensif*. In order to signal a discontinuity with earlier classifications and indicate the new linguistic reality, Galand suggested that the *auriste intensif* be renamed *inaccompli*, thereby expressing its functional opposition to the *accompli* (e.g. Galand 2010). The aspect-neutral role of the *auriste* in many modern varieties is discussed in chapter 9.

²² For historical reasons, the documentation available on Moroccan and Algerian varieties of Berber is mainly written in French. Consequently, French terminology is often referred to even in English-language publications. In what follows, English-language terminology is used instead.

To summarise, French-language scholarship subscribing to this view distinguishes among *accompli*, *inaccompli*, and *aoriste*, therefore contrasting the former two categories, which are deemed to express fundamentally different meanings, whereas the latter category would be of a radically-different nature. The present dissertation assumes the latter analysis is correct. A decision has been made to rename those three categories as *Perfective*, *Imperfective*, and *Aorist*, respectively. This allows to merge a terminological contrast which is widely-accepted in the general literature (perfective vs. imperfective) with a category which is well-known within Berber studies and rather distinct from the former two (aorist).

These three categories are ubiquitous across Berber. Some varieties operate further distinctions. For instance, it was mentioned above that Tuareg shows a *resultative* form, built on the perfective stem (Heath 2005). The large vocalic inventory of Tuareg languages allows for the formation of resultative forms by internal vowel change (ablaut). An analogous resultative stem is also attested in eastern Berber (Awjilah and Siwa), but this seems to have originated independently from the Tuareg one, being formed by suffixation of a resultative particle instead (Paradisi 1960; Souag 2010).

Another pan-Berber phenomenon consists in the existence of special perfective forms only found in negative constructions: this category is known as Negative Perfective (NPFV). Finally, negative imperfective forms may also be distinguished in a number of dialects, although this stem is not attested in Ayt Atta Tamazight.

In addition to the verb stems just described, a number of derived verbal categories are also attested in Ayt Atta Tamazight: these are known as *participle*, *causative*, *reciprocal*, and *passive*. Each of these shows the same range of aspectual stems as all basic (i.e. underived) verb forms.

This short introduction has illustrated the properties of Berber TAM from both a diachronic and synchronic perspective. The overview has suggested that a number of issues still seem to be unresolved, so that no conclusive characterisation of the general properties of Berber's TAM system has been achieved yet. The second part of the present work aims to contribute to the clarification of such outstanding issues.

The sections that follow conclude this general introduction to the present work by introducing the methodology adopted herein, discussing how all the data have been collected and managed, mentioning some potential further outcomes of this work, and providing a statement concerning the ethical approach adhered to throughout the whole project.

§1.7 Methodology and data management

The main purpose of this dissertation consists in the investigation of the formal and functional properties of grammatical aspect in Ayt Atta Tamazight narrative discourse. The methodology adopted in the present work is illustrated in what follows.

§1.7.1 Fieldwork

The first fundamental component of the methodology adopted for this research project is the extended fieldwork undertaken within the Ayt Atta community. In spite of the fact that some publications on southern Tamazight have appeared in the past few years, all considerations concerning the grammar and especially the aspectual system of Ayt Atta Tamazight stem from first-hand data collected in the field.

The main field location has been Ayt Lfrsi,²³ a village located in the province of Ouarzazate (Souss-Massa-Drâa region), and it is upon the dialect spoken therein that the linguistic generalisations which have led to the present work have been drawn. As is customary in Morocco, the village is named after the tribe which resides in it: the Ayt Lfrsi people represent a small fraction of the Ait Aisa Mzin, one of the five groups constituting the Ayt Atta (Hart 1981: 24). According to the 2004 census, the rural municipality of Ayt Lfrsi had 4557 inhabitants divided into 659 households.²⁴ The author has undertaken a number of fieldtrips to Ayt Lfrsi, eventually spending some six months in the village, living in close contact with the community.

A second important field site has been Agadir, the main centre of the Sous region, in the south-west of Morocco. A tiny number of Ayt Lfrsi families and individuals have settled there in recent years, including several young males who study in town. During a sojourn of three months, linguistic research was carried out in collaboration with those Ayt Lfrsi people, administering questionnaires, recording various audio materials, and generally acquiring a more solid knowledge of the language. The stay also allowed the author to consult library resources held at the local University (Université Ibn Zohr).

Data was also collected in Barcelona (Catalonia) during a one-month fieldtrip which took place in January/February 2013, when it was possible to undertake

²³ Toponyms are spelled in different ways in the literature on Berber: this village makes no exception, its official (transliterated) name actually being *Ait el Farsi*. Hoping this does not add to the anarchy surrounding the issue, it has been decided to write this name as Ayt Lfrsi, in keeping with its actual pronunciation ([ɛjtɛlfr'si]). *Ayt* essentially means people, whereas the second part of the name is locally interpreted as deriving from *afressij*: this is a type of plant which used to grow abundantly in the area where the tribe eventually settled and the village was built. If this etymology is accurate, it might be the case that the lateral element *l* in *Lfrsi* was inserted into the name in the attempt to provide an Arabised version of it.

²⁴ The figures from the 2004 census were retrieved on 31st July 2014 from the following online address: www.lavieeco.com/documents/officiels/Recensement%20population.pdf.

linguistic research with the help of a number of Ayt Lfrsi expatriates. Furthermore, the visit also allowed for the discussion of Berber-related linguistic issues with a number of scholars and native speakers of Amazigh living in the area around Barcelona.

Last but not least, language data were often discussed over informal meetings with Ayt Lfrsi people living in the area of Rimini, in northern Italy.

The fact that several fieldtrips were undertaken has meant that knowledge of the language has been acquired in an incremental way, initially formulating preliminary hypotheses and testing them with the help of native speakers, then individuating gaps in the data which were then filled during subsequent trips.

This work heavily relies on corpus analysis and questionnaires administered to native speakers of Ayt Atta Tamazight. However, the author has also actively tried to achieve a good level of proficiency in the language, which has in turn led him to partially rely on his own growing intuitions. Language learning in fieldwork has played an important role in field linguistics, its centrality being stated unabatedly by Everett (2001), which reviews the deep-reaching impact of language-learning on data collection and hypothesis-testing.²⁵

§1.7.2 Corpus analysis

The second fundamental component of the methodology adopted in this work consists in corpus analysis. Extended periods of fieldwork have allowed for the collection of good-quality data from a variety of native speakers, from both genders and all age ranges. The final corpus includes several genres, namely folktales,

²⁵ The importance of seeking proficiency in the language constituting the object of one's own investigation was remarked recently by the eminent American linguist Prof Paul Newman (SOAS, 15th October 2013).

natural conversations, semi-staged conversations, monologues, procedurals, and a number of linguistic questionnaires.

Given the dearth of primary data on Ayt Atta Tamazight, creating a language corpus obviously had great importance. A diverse set of linguistic genres plays a fundamental role in this project, since this allows for a corpus-based investigation of the formal and functional properties of grammatical aspect in this variety and for the production of generalisations concerning the language as a whole.

§1.7.3 Questionnaires and tests

Linguistic questionnaires and tests have been developed in recent years in order to facilitate the fieldworker's task, covering many areas of the grammar and highlighting some specific research questions to be dealt with from a cross-linguistic perspective (e.g. the resources developed by the Leipzig-based Max Planck Institute for Evolutionary Anthropology²⁶).

In addition to a corpus of narrative data, the Ayt Atta corpus assembled throughout the project also includes data from a number of questionnaires administered in the field.

Among the existing resources, this work has made use of Dahl's *TMA questionnaire* (Dahl 1985), a classic tool for the investigation of aspectual systems. The questionnaire was first translated from English into French and Spanish and then separately administered to a few Ayt Atta speakers.

Another questionnaire administered in the field is an adaptation of Hengeveld's Questionnaire on Complement Clauses. Again, this was first translated from English into French and then administered to Ayt Atta speakers.

²⁶ These are found at the following address: <http://www.eva.mpg.de/lingua/tools-at-lingboard/tools.php> (last accessed on 1st July 2014).

§1.7.4 Data management

The entire language corpus was managed according to the recommendations of *documentary linguistics*, a framework which has acquired wide currency in recent field-oriented projects (Himmelmann 2006; Woodbury 2003). One of the main concerns of documentary linguistics is to ensure the *portability* of all documentation across different platforms and disciplines, in order to make it accessible to as wide a range of scholars and students as possible (Bird & Simons 2003).

Primary data was complemented with metadata, i.e. data about the data, providing information such as the particular speech situation in which a file was recorded, those who contributed to it, and the genre it represents. Furthermore, a number of data-management tools were employed, notably ELAN and Toolbox, among others. Time constraints meant that further work is undoubtedly necessary in order to allow for the exploitation of the language corpus from an interdisciplinary perspective, but this preliminary effort has undoubtedly paved the way for such work.

§1.8 Other outcomes of this work

Although this project does not primarily focus on language contact phenomena, a comparative investigation of the variety of Ayt Atta Tamazight spoken in Morocco with the one spoken in the diaspora may reveal the existence of diverging patterns in the use of aspect in discourse, and/or in other areas of the language, due to the effects of language contact. This may constitute an important topic for future research, especially since a number of European countries are now home to many second-generation speakers of Ayt Atta Tamazight.

§1.9 Ethical concerns

A few words on the approach adopted vis-à-vis the community and the data collected in the field are necessary. The present work has been conducted in an ethical way and priority has been given to the dignity of the speech community and the wellbeing of language helpers at all stages.

Data were always collected respecting local practices and customs, notably as far as gender-related sensitivities are concerned, since these represent an important part of community life in Ayt Lfrsi (and across the Maghreb).

Part 1

A Sketch Grammar of Ayt Atta Tamazight

This first part provides a description of the undescribed Berber variety spoken by the Ayt Atta people of Ayt Lfrsi (Morocco). The nature of the present grammar means that some topics are given less attention than what they would deserve, since the main focus is on the verbal morphosyntax. For this reason, an exhaustive description of Ayt Atta Tamazight grammar is deferred to future publications.

This sketch grammar consists of a number of chapters, the work being organised as follows: §2 provides a description of the phonological system; §3 and in §4 investigate the nominal and the pronominal morphology, respectively; §5 focuses on the verbal morphology; finally, §6 discusses the syntax of both phrases and clauses.²⁷

²⁷ A syntax of discourse deserves separate attention and its thorough discussion constitutes the object of §9, the core chapter of the second part of this thesis.

Chapter 2

Phonology

The phonological inventory of Ayt Atta Tamazight does not substantially differ from the systems attested in northern varieties of Tamazight, although the actual phonetic realisation of certain sounds may diverge (cf. Penchoen 1973).

This chapter first provides the phonemic inventory of Ayt Atta (§2.1); it goes on to illustrate the consonants (§2.2) and the vowels (§2.3); then it sketches the assimilation processes attested in this variety (§2.4), the issues of schwa (§2.5) and the placement of stress (§2.6), before it provides some further observations (§2.7) and a short conclusion (§2.8).

§2.1 Phonemic inventory of AAT

The whole set of Ayt Atta consonantal phonemes is given in (2.1), below:

(2.1) Consonantal phonemes in Ayt Atta Tamazight²⁸

		Labials	Alveolars	Palato- alveolars	Velars	Uvulars	Pharyngeals	Laryngeals
Plosives	<i>+ph</i> <i>+lab</i>	b	t tʕ	d dʕ	k kʷ	g gʷ	q	
Nasals		m	n					
Trills	<i>+ph</i>		r rʕ					
Fricatives	<i>+ph</i>	f	s sʕ	z zʕ	ʃ ʃʕ	ʒ ʒʕ	χ ħ	ʁ ʕ
Affricates				tʃ dʒ				
Approximants	<i>+lab</i>			j	w			
Laterals	<i>+ph</i>		l lʕ					

As for the vocalic inventory, Ayt Atta Tamazight has three phonemes, namely /a/, /i/, and /u/. Schwa does not have phonemic status.

²⁸ Glossary: +ph = pharyngeal / pharyngealised sounds; +lab = labialisation. Sounds in bold only appear as geminates.

§2.2 Consonants

The properties of Ayt Atta consonants are illustrated in what follows. The first section discusses the phonemic and the phonetic inventory, whereas the second one focuses on the issues of plosive consonants and tenseness.

§2.2.1 Phonemic and phonetic inventory

The data provide a list of phonemes alongside a discussion of allophones and sounds in free variation; alternative realisations of one and the same phoneme are indicated by a tilde sign.

(2.2) Labials

A noteworthy property of labials is that they do not trigger centralisation of a following /u/ into [ʊ], which is common with alveolars instead (cf. §2.3): e.g. /afus/ → [afus] ‘hand’ (cf. /alus/ → [alʊs] ‘brother-in-law’).

/b/

/b/ → [b]: e.g. /abaw/ → [abaw] ‘fava bean’; /abra/ → [abəɾa] ‘button’; /abrid/ → [abərid] ‘road, path’.

Some minor labialisation may be present whenever this sound appears as a geminate: /bb/ → [bbʷ]: e.g. /bba/ → [bbʷa] ‘father’.

/m/

/m/ → [m]: e.g. /amalu/ → [amələ] ‘shade’.

Some minor labialisation is present whenever this sound appears as a geminate: /mm/ → [mmʷ]: e.g. /mma/ → [mmʷa] ‘mother’; /jmmut/ → [immʷut] ‘he died / has died / is dead’.

/f/

/f/ → [f]: e.g. /afud/ → [afud] ‘knee’; /afus/ → [afus] ‘hand’; /afullus/ →

[afullʰs] ‘rooster, chicken’.

The sound [f] is also found as an allophone of both /b/ (e.g. /taʁabt/ → [taʁaft] ‘Arabic language’) and /k/ (e.g. /kulʃi/ → [fulʃi] ‘everything, everybody’); however, these realisations are rare.

(2.3) Alveolars

They cause a following /u/ to be centralised into [ʊ]: /ajdud/ → [ajdʊd] ‘a religious festival’; /alus/ → [alʊs] ‘brother-in-law’

/t/

/t/ → [t]: e.g. /tanut/ → [tanʊt] ‘well’; /tallunt/ → [tallʊnt] ‘little drum’.

Some instances of fricativisation have been noticed: /t/ → [tʰ] (~ [θ]): /tutlajt/ → [tʰʊtʰlʊit] ‘language’.²⁹ This is mainly found in the common expression /maj di tkkit/ → [mɛj di tʰkkiθ] ‘Where have you come from? Where have you been?’

/d/

/d/ → [d]: /ajdud/ → [ajdʊd] ‘fair’.

The sound may be slightly palatalised before /i/: /d/ → [dʲ], as in /abadir/ → [abadʲir] ‘a type of bread’.

This sound may be geminated, e.g. in word-initial position, as in /ddik/ → [ddik] ‘I left/have left’ (cf. /dik/ → [dik] ‘again’).

Phoneme /d/ contrasts with /dʰ/: e.g. /adis/ → [adis] ‘belly’ vs. /adʰil/ → [adʰil] ‘grapes’.

/tʰ/

/tʰ/ → [tʰ]: this phoneme is only found as geminate /tʰtʰ/: e.g. /tamʰtʰut/ → [tʰamʰtʰʊtʰ] ‘he fell’; /jtʰar/ → [itʰar] ‘he fell’.

²⁹ A newly-introduced word which is only known by a few young people; the standard word for ‘language’ is *awal* (also meaning ‘word’).

Arabic loanwords having non-geminate /t^ʕ/ are integrated into Ayt Lfrsi phonology:³⁰ /t^ʕ/ → /d^ʕ/, as in /ad^ʕbib/ ‘doctor’ (<Ar. /t^ʕabiib/). This applies consistently in Ayt Lfrsi but it is not the case in some neighbouring Ayt Atta villages.

/d^ʕ/

/d^ʕ/ → [d^ʕ]: e.g. /ad^ʕar/ → [ad^ʕar] ‘leg, foot’; /ajd^ʕid^ʕ/ → [ajd^ʕid^ʕ] ‘bird’; /madi^ʕa/ → [mad^ʕi^ʕa] ‘tomato’; /ad^ʕbib/ → [ad^ʕbib] ‘doctor’; /am^ʕʒ^ʕʒ^ʕud^ʕ/ → [am^ʕʒ^ʕʒ^ʕod^ʕ] ‘bald man’.
/d^ʕ/ ≠ /d/, cf. /ad^ʕil/ → [ad^ʕil] ‘grapes’ vs. /adis/ → [adis] ‘belly’.

/n/

/n/ → [n]: e.g. /nniɤ/ → [nniɤ] ‘I said’.

Some limited argument for the phonemic status of [ɲ] could be put forward on the basis of loanwords such as [lbano] ‘tub’ (cf. its near minimal pair /wanu/ → [wano] ‘well.DS’).

/r/

It contrasts with /ɣ/, as can be seen from the following minimal pairs:

/azgg^war/ → [azəgg^war] ‘jujube’ vs. /azgg^waɣ/ → [azəgg^waɣ] ‘red’;
/tamazirt/ → [tamazirt] ‘region, village’, and /tamaziɣt/ → [tamaziɣt] ‘Tamazight (i.e. Berber language / Berber woman)’.

/r^ʕ/

The sound [r^ʕ] is often found in words having well-established pharyngeal phonemes, such as /d^ʕ/ as in [ad^ʕar^ʕ] ‘leg, foot’. Therefore, it might be thought of as resulting from pharyngeal assimilation.

However, its phonemic status is confirmed by words lacking other pharyngeal sounds, as in /ar^ʕumi/ → [ar^ʕomi] ‘foreigner, European’ (lit. ‘Roman’); /ad^ʕʒ^ʕar^ʕ/ → [ad^ʕʒ^ʕar^ʕ] ‘neighbour’ (< Arabic).

³⁰ Or, rather, they are integrated into its morphophonology, as the presence of prefix *a-* in the following example shows (cf. §3.1.2).

/s/

/s/ → [s] in all positions, e.g. intervocalically, as in /asanf/ → [asənəf] ‘shortcut’. Geminate /s/ may contrast with its non-geminate counterpart even in word-final position:

/alus/ → [alʊs] ‘brother-in-law’ ≠ /aluss/ → [alʊss] ‘foam’

/z/

/z/ → [z]: e.g. /azal/ → [azəl] ‘midday’.

It contrasts with /z^ʕ/ (see below).

/s^ʕ/

Usually found in loanwords, as in /s^ʕs^ʕif/ → [s^ʕs^ʕef] ‘summer’.

/z^ʕ/

It contrasts with /z/, as can be seen from the following minimal pairs and quasi-minimal pairs:

/izi/ ‘fly’ ≠ /iz^ʕi/ → [iz^ʕɪ] ‘he fought (with)’

/azul/ → [azʊl] ‘hello’ ≠ /taz^ʕult/ → [taz^ʕʊlt] ‘kohl’

/azarif/ → [azarif] ‘law’ ≠ /az^ʕarif/ → [az^ʕarif] ‘alum’

/l/

/l/ → [l]. Dental sounds are usually released laterally when followed by /l/, as in /tlla/ → [t^lla] ‘she is/exists’ (cf. §2.4).

/l^ʕ/

Only found in /al^ʕl^ʕa/ → [al^ʕl^ʕa] ‘God’ (also pronounced [l^ʕl^ʕa]; no final /h/ is present).

(2.4) Palatoalveolars

/ʃ/

/ʃ/ → [ʃ]: e.g. /kulʃi/ → [xulʃi] ‘everything’; /aʃiʃaw/ → [aʃiʃaw] ‘chick’

/ʒ/

/ʒ/ → [ʒ]: e.g. /jʒʒa/ → [iʒʒa] ‘it smells good’ (cf. /jʒʒʳa/ ‘it smells bad’);
/taʒʒaʒin/ → [taʒʒaʒin] ‘lamps’

/ʃʳ/

/ʃʳ/ → [ʃʳ]: not very frequent, but found in words such as /abbuʃʳn/ → [abbuʃʳən] ‘breasts’

/ʒʳ/

[ʒʳ] → [ʒʳ]: attested in /amʒʳuʒʳr/ → [amʒʳoʒʳər] ‘stream, fall’
/jʒʳʳa/ → [iʒʳʳa] ‘it smells bad’: cf. /jʒʒa/ → [iʒʒa] ‘it smells good’³¹

/tʃ/

/tʃ/ → [tʃ]: only found in geminates; e.g. /tinwutʃtʃi/ → [tinwutʃtʃi] ‘evening prayer’, word related to the verb *tʃ* ‘to eat’; /jtʃtʃa/ → [itʃtʃa] ‘he ate’

/dʒ/

/dʒ/ → [dʒ]: only found in geminates; e.g. /adʒdʒarʳ/ → [adʒdʒarʳ] ‘neighbour’ (< Arabic); /judʒdʒa/ → [jʊdʒdʒa] ‘he left, dropped’.

/j/

/j/ → [j]: e.g. /ajjur/ → [ajjʊr] ‘moon’; /alj/ → [ɐlj] ‘go up!’; /asnaj/ → [asnɐj] ‘knight’.

The sound [j] also appears to be an allophone of /g/ (as shown below), as seen in words such as *dinnag*, which may be realised as [dinnɐj].

³¹ The minimal pair is attested as far as in Figuig, at the border between Morocco and Algeria (Fouad Saa, p.c.).

Furthermore, [j] is also used with hiatus-breaking function, as in /a arjaz/ → [a j arjəz] ‘oh man!’

(2.5) Velars

/k/

/k/ → [ç] ~ [x] ~ [k] ~ [ʃ] ~ [f]

There are several allophones corresponding to this phoneme: [ç] is the most common allophone and is usually realised before high-front and low vowels, i.e. [i], [ɪ], [a], [ɐ], and [ɑ], as in:

/aka/ → [aça] ‘lizard’; /baraka/ → [baraça] ‘blessing / enough’; /akal/ → [açaɫ] ‘land, country’; /ikms/ → [içəms] ‘thumb’; /iskir/ → [isçir] ‘nail’; /asklu/ → [aščlɔ] ‘tree’; /ifrskil/ → [ifərščil] ‘plant name’, /lkis/ → [lçis] ‘glass’; /talakt/ → [taləçt] ‘traces left by rainfall on soil’, /tiskirt/ → [tisçirt] ‘garlic’, /maj tskart/ → [məj tsçərt] ‘what are you doing?’

This allophone is replaced by [ʃ] in some people’s speech.

/k/ → [x] / __u, as in:

/ku ass/ → [xujəss] ‘every day’ (with hiatus-breaking [j]); /takurt/ → [taxurt] ‘ball’, /ikurbīn/ → [ixurbīn] ‘a type of shoe’, /ikurʃan/ → [ixurʃən] ‘intestines’, /akumam/ → [axuməm] ‘nail’, /maj tskart/ → [məj tsxərt] ‘what are you doing?’

Phoneme /k/ may be slightly labialised (and fricativised) before /u/, i.e. [x^w]. The rare allophone [f] found in a few common words and expressions such as in /kulʃi/ → [fulʃi] ‘everything’ or in /ku ass/ → [fujəss] ‘every day’ arguably resulted from total loss of the velar articulation, with the labial element becoming more prominent, possibly developing along these lines: [kujəss] > [xujəss] > [x^wujəss] > [fujəss]. However, this is very rare.

/g/

/g/ → [ɟ] ~ [j] ~ [ɣ]

This phoneme partially mirrors its voiceless counterpart /k/, as far as the range of allophones it displays are concerned. Its most frequent allophone is [ɟ], but may also be realised as [ɣ], [j], or [g]: these sounds seem to stand in free variation between front vowels, but not before /u/, where /g/ is usually realised as [ɣ].

As for the parallelism between /k/ and /g/, almost each pair of homorganic allophones (e.g. [ç] and [ɟ]) appears in the same environment, although /g/ is often realised as [j] in intervocalic position.

However, /g/ is never realised as [ʒ], whereas it was noticed that [ʃ] is one of the allophones of /k/ at least in some people's speech.

/g/ → [ɟ] ~ [j]

Some examples: /agadir/ → [aɟadir] ~ [ajadir] 'wall'; /agato/ → [aɟatə] 'rope'.

The word /arjaz/ 'man' deserves some observation. This word is /argaz/ in other dialects (e.g. Tashelhiyt) but Ayt Atta people realise it as [arjɛz] and the word was found as [arɣɛz] only in the speech of some elderly women. Furthermore, its plural is universally pronounced [irizən], i.e. a full vowel has displaced former realisations of /g/. It is here assumed that the singular form has underlying /j/ at least in the speech of younger generations.

/g/ → [ɣ]

A few examples: /agurr/ → [aɣurr] 'ear'; /agunun/ → [aɣunən] 'hood'.

/kʷ/

This sound is attested in both geminates and simple consonants. The geminate sound retains the plosive articulation of its velar element, as in /akkʷ/ → [akkʷ] 'all, everything'. Non-geminate /kʷ/ is usually realised as

[x^w], as in /ak^wfaj/ → [ax^wfɛj] ‘milk’; /ak^wfaf/ → [ax^wfɛf] ‘slab’.

/g^w/

Usually found as geminate /gg^w/ → [gg^w], as in /gg^wj/ → [gg^wj] ‘touch!; /ad^ɛgg^wig/ → [ad^ɛgg^wij] ‘spark’; /azgg^war/ → [azəgg^wər] ‘jujube’, /azgg^waɾ/ → [azəgg^waɾ] ‘red’; /ad^ɛgg^wal/ → [ad^ɛgg^wal] ‘brother-in-law’.

Berber literature reports that /gg^w/ is the tense (i.e. geminate) counterpart of /w/ (Kossmann & Stroemer 1997: 465).³² However, there might be some evidence pointing to /gg^w/ being the geminate counterpart of /g^w/: this is found in the possible retention of the velar articulation before /u/ in the word meaning ‘wind’, whose realisation is either [azwə] or [azy^wə]: this depends on idiolectal differences. These two realisations are also attested in other villages from the same region. This word is arguably related to the verb *zwu* ‘to be dry’, whose Imperfective stem is formed by gemination of the second consonant, yielding *zgg^wu*.³³

/w/

/w/ → [w]: e.g. /walu/ → [walə] ‘nothing’; /abaw/ → [abaw] ‘fava bean’, /awal/ → [awəl] ‘word, language’

(2.6) Uvulars

/q/

/q/ → [q]: e.g. realised as [q], as in /lqfɛl/ → [ləqfɛl] ‘padlock’, or in the toponyms /taqubbɛajt/ → [taqobbɛjt] (from Arabic *qubbaʕa* ‘hat’). These are Arabic loanwords, since /q/ is only found as a geminate in inherited Berber vocabulary, representing the ‘tense’ counterpart of simple /ɣ/. This can be seen in the IPFV stem of *nɛ* ‘kill’ which shows reduplication of the second consonant (*nqqa*; cf. chapter 5).

³² Not all dialects show this correspondence in the morphology, e.g. Kossmann (2000: 16) reports that eastern Tarifit [gg^w] is only found lexically. However, Ayt Lfisi does show this morphological correspondence, as seen in the verb *rwɛ*, whose Imperfective stem is *rgg^wɛ*.

³³ The basic form of the verb (i.e. *zwu*) does not seem to have any trace of velar articulation.

/χ/

/χ/ → [χ]: e.g. /aχajtus/ → [aχajtʰs] ‘traditional male robe’, /biχajr/ → [biχer] ‘everything’s fine’ (a greeting, from Arabic).

/ɣ/

/ɣ/ → [ɣ]: e.g. /ɣur/ → [ɣur] ‘by, at’; /tamaziɣt/ → [tamaziɣt] ‘Tamazight (i.e. Berber language or Berber woman)’; /kalɣ/ → [kʌlɣ] ‘I think’.

(2.7) Pharyngeals

These sounds behave differently from other posterior sounds in that they do not prevent following /a/ and /u/ from being raised to [ɐ] and centralised to [ə], respectively. A few examples are provided below:

/ħ/

/ħ/ → [ħ]: e.g. /mħra/ → [mħra] ‘just’; /aħrir/ → [aħrir] ‘soup’; /ħmad/ → [ħmɛd] ‘Ahmed’; /imih./ → [imih] ‘a bit / at some point’; /lħal/ → [lħɛl] ‘time, situation’; /lħu/ → [lħə] ‘Lho’ (male name, from ‘Lhusayn’)

/ʕ/

/ʕ/ → [ʕ]: e.g. /tamʕʕunt/ → [tamʕʕunt] ‘date jam’; /taqubbʕajt/ → [taqubbʕajt] ‘Taqubbʕayt’ (name of a local mountain)

(2.8) Laryngeals

/h/

/h/ → [h]: e.g. The laryngeal fricative phoneme seems to be always voiced in Ayt Lfisi Tamazight. It appears in both word-initial and word-medial position, but was not found word-finally.

Word-initially: found in presentative particles, e.g.: /hian/ → [hɛn] ‘here he comes’.

Word-medially: in words such as /afd^sur/ → [afd^sor] ‘skin mat’; /tfinna/ → [tfinna] ‘how are you?’. Word-medial voiced realisation might be said to be motivated by regressive assimilation (cf. §2.4), but this is arguably not the case with examples where the laryngeal sound is word-initial.

§2.2.2 Plosive consonants and tenseness

The assignment of phonemic status to the plosive member of sets of sounds standing in complementary distribution might seem to be dubious at a first glance (although it is well-established in Berber literature). For instance, one may wonder why it is the case that /k/ is selected as a phoneme, when most words allegedly having this phoneme realise this very sound as its fricative counterpart (e.g. /akal/ ‘soil, land’, realised as [aɕəl]). There seem to be at least three concurring reasons which make this choice preferable: these have to do with language variation, speakers’ perceptions, and morphological considerations.

First, variation is widespread at both dialectal and idiolectal level (see discussion under entry /k/, above): what is usually realised as a fricative sound may be realised as a plosive sound by the same person in different contexts, or by different people. This is evident in data collected in the field, where velar-plosive phonemes are given a wide range of phonetic realisations, including a plosive one. This criterion does not justify the choice of /k/ over /ɕ/ or /x/; nevertheless, it makes it possible.

Furthermore, the retention of a plosive pronunciation is widely-attested in some contexts. This is the case with the preverbal use of the 2SG.M direct object clitic *-k*: this is realised as [ɕ] in postverbal position, whereas a plosive realisation is attested whenever the clitic occurs preverbally, which is the case when a TAM particle appears in the clause (cf. chapter 6). This is possibly due to the assimilation of the dental sound in TAM particle *ad* (or historically-related particles) to the following

clitic *k*: this yields a geminate *kk* which does not undergo fricativisation, arguably showing the retention of a more conservative articulation for /k/. This is shown in the following example (the relevant segments are given in bold):

(2.9) *qad **k** jnɛ* → [qɑk **k** inɛ] ‘He will kill you’

This means that the plosive realisation is not just a fact of some interest for reconstructing an older stage of the language, but also retains some synchronic validity.

However, the retention of the plosive realisation is indeed very marginal. The juxtaposition of two underlying velars does not necessarily yield a plosive realisation, as shown below:

(2.10) *qad a**k** **kk** idrimn* → [qɑd ɐç çɛ idrimn] ‘I will give you the money’

In (2.10), the boundary between the preverbal clitic and a *k*-initial verb does not suffice for the retention of the older plosive realisation. These two examples suggest that the type of morphological boundary is relevant to the realisation of /k/ as a plosive sound or as a fricative one.

The second factor pointing to the phonemic status of a plosive sound has to do with speakers’ perceptions. Speakers readily indicate the occlusive sound homorganic (or closest) to the fricative one being used when they need to decide on which letter should be used to transcribe that particular sound: [x] and [ç] are invariably written as *k*, which again may suggest that the plosive sound is somehow conceived of as being the corresponding phoneme.

Third, the sounds susceptible of being realised as either fricatives or plosives across Berber (henceforth set-A sounds) are consistently realised as plosives (henceforth set-B sounds) in some contexts, notably when they undergo the process of morphological reduplication through which the Imperfective stem of many verbs is formed (cf. chapter 5).³⁴

The status of set-B sounds is an old question within Berber phonology, since these are variously referred to as either *geminate* or *tense* consonants.³⁵ At least three parameters seem to play a role in distinguishing between set-A and set-B sounds, namely length, degree of occlusion,³⁶ and tenseness (muscular effort).³⁷ Some authors (cf. Abdel-Massih 1971) imply that the relevant contrast is one of length, but it may be the case that length is just a by-product of other phenomena, rather than a defining feature. Length is also recognised as the feature distinguishing these two consonant types in a recent work on the acoustic properties of Siwi Berber (Naumann 2011: 153ff.).

In other cases, the occlusive character of set-B consonants is sufficient to tell a particular sound apart from the corresponding³⁸ fricative, e.g. in the Zemmur dialect

³⁴ These sounds are also found in the lexical representation of many words though, as seen in contrasts such as *alus* ‘brother-in-law’ ≠ *aluss* ‘foam’.

³⁵ But see Galand (1988: 215) who states that tension should not be confused with either length or gemination.

³⁶ In ‘occlusive’ dialects (e.g. Tasousit), the degree of occlusion is not relevant, since it plays no role in distinguishing between the two sets.

³⁷ Set-A consonants are consistently transcribed with a lower-case letter in the literature, whereas set-B consonants are transcribed in a number of ways. Galand (1988: 215) implies that an articulatory difference exists between tense consonants and geminates but states that they behave alike, in that they both close the preceding syllable. This can be clearly seen in Kabyle, where schwa seems to be non-phonemic and only appears in closed syllables: it is always realised before a tense or a geminate consonant.

³⁸ A corresponding fricative is not necessarily homorganic to a stop; in fact, this is often not the case, as the presence of velar and palatal allophones of phoneme /g/ show.

(Galand 1988: 216): in such analyses, length is indeed reduced to a by-product of tensing/occlusion.

However, muscular tension might be more relevant to an understanding of AAT, although it might coexist with the other two properties. Some scholars (Bentolila 1981: 20; Durand 1998; Galand 1965: 753) analyse the contrast between set-A sounds and set-B sounds as one between lax and tense consonants, although a detailed phonetic description is not provided.

Similar sounds are reportedly found in other languages of the world. In Korean, a set of tense obstruents have phonemic value: such sounds are produced with glottalic tension, but the sounds themselves are not glottalic (Kim 1987).³⁹

It is here hypothesised that AAT's set-B sounds can be best described as *stiff sounds*, a label more widely-accepted in the literature than the one of *tense sounds*, but which basically retains the idea of great muscular effort. A more accurate characterisation of these AAT consonants is beyond the scope of this work and further research on the topic is certainly necessary.

Analysing such sounds as stiff/tense sounds is also compatible with native speakers' intuitions, which usually lead them to express the idea that strength rather than length is the defining factor.

Local communities are deeply aware of the cross-dialectal contrast in the presence and distribution of fricative and occlusive sounds within Moroccan Berber

³⁹ Kim states that there are three series of consonants in Korean which share the same point of articulation but they are nevertheless different – one of these series is said to be characterised by tenseness, i.e. glottalic tension (but the sound is not glottalic though) – “The Korean tensed obstruents are one of the most peculiar sounds among Korean consonants. The tensed obstruents are produced with glottal tension, but these sounds are not glottal sounds or ejectives. For instance, the Korean /t'/ is phonetically similar to the sound [t'] in English which is pronounced after [s] in the word *stop* [stap]; however, the Korean tensed obstruent must be pronounced with more glottal tension” (Kim 1987: 887).

dialects, and this feature seems to be perceived of as central to the very classification of idiolects and dialects, at least at the regional level. Among Moroccan dialects, Tashelhiyt and Tarifit seem to represent polar opposites, the former showing a wide number of occlusive phonemes, and the latter realising many phonemes as fricative sounds.⁴⁰

Ayt Atta Tamazight lies somewhere in between the opposition described above. A member of the Ayt Lfrsi community wittily captured the behaviour of his own dialect vis-à-vis Tashelhiyt by saying that “Ayt Atta people do not close their mouth when they speak”, i.e. their sounds are not realised as stops, as opposed to what happens in Tashelhiyt. This is obviously too strong a statement, since northern dialects of Tamazight and Tarifit have a far greater inventory of fricative sounds. Nevertheless, this shows the psychological relevance of phonologically-based dialect boundaries.

§2.3 Vowels

A three-vowel system is found in most Berber varieties and usually postulated for Proto-Berber. The three phonemic vowels are /a/, /i/, and /u/. Dialectal variation is frequent though, and some varieties also distinguish centralised vowels such as schwa and/or other similar sounds in their phonemic inventories: for instance, Algerian dialects include schwa in their phonemic repertoires, whereas Tuareg varieties have even larger inventories, also including /e/, /o/, and two centralised vowels: /ə/ and /ɐ/ (Durand 1998: 52, 58).⁴¹

⁴⁰ Outside Morocco, “occlusive” dialects of Berber are those spoken by the Tuareg and by the populations living in the east (central Algeria, Tunisia, Libya and Siwa), whereas a prominent “spirantised” dialects is Kabyle.

⁴¹ Comparative concerns have meant that some authors reconstruct a six-vowel system in Proto-Berber, i.e. one which is identical with that of Classical Arabic and Akkadian. In such reconstructions,

The phonemic inventory of Ayt Atta Tamazight includes /a/, /i/, and /u/, although other vowels have entered the language due to borrowing (e.g. final /e/ in /r^ʕubine/ ‘tap’⁴²).

These three vowels have a number of phonetic realisations, depending on the context in which they are found. A full illustration of Ayt Atta phonemic vowels and allophonic realisations is provided below:

(2.11) Vowels

/a/

/a/ → [ɑ] ~ [ɐ] ~ [a]

Whenever /a/ occupies the last filled nucleus in the word, it may receive two phonetic realisations: it is realised as the low, back, unrounded vowel [ɑ] in word-final position, as well as when adjacent to uvular sounds (e.g. *maɣ* → [mɑɣ] ‘why’), whereas it is raised to the central vowel [ɐ] in non-final position, and if there is no adjacent uvular segment: /arba/ → [arbaɐ] ‘boy, son’, cf. feminine /tarbat/ → [terbət] ‘girl, daughter’.

The situation is more complex when /a/ is not the last filled nucleus in the word. Some vowel-harmony process might be at work here: a hypothesis is put forward further below, although the details will have to be better determined in some dedicated investigation.

As a tentative analysis, it might be argued that penultimate /a/ is centralised and raised to [ɐ] if the last nucleus has a central vowel, i.e. [ɐ], [ɯ], or [ə].

vocalic length is distinctive, yielding the following six sounds: /a:/, /i:/, /u:/, /a/, /i/, and /u/. In this approach, the three vowels were then reduced and merged into a centralised vowel (i.e. schwa), or disappeared, whereas the long vowels were shortened, instead (Durand: 1998: 60). See also Daniel Cohen (1988: 10).

⁴² There exist several loanwords with word-final [o] e.g. [lbəno] ‘large bucket for doing the laundry’: however, it may be claimed that final [o] is compatible with the usual lowering of /u/ in word-final position (see the remaining discussion in this section).

Nuclei before the penultimate one may undergo a similar process, although it seems that a penultimate nucleus stands a higher chance of becoming [ɐ] than nuclei to its left. All this seems to point to some form of leftward spreading. An /a/ vowel which does not undergo centralisation and raising seems to be realised as a general low-central vowel, which will be transcribed as [a] in this chapter. The previous considerations are borne out by observing a word such as /amalu/ ‘shadow’, which may be realised as either [ɐmɐlə] or [amɐlə], although the latter realisation seems to be more likely to occur.

Furthermore, consonant clusters appear to prevent leftward spreading of centralised and raised vowels, whenever the cluster intervenes between the relevant nuclei: this is seen in words such as /tamggant/ → [taməggənt] ‘prostitute’.

On the other hand, whenever low-back [ɑ] is present in the last nucleus (which is always the case with /a/-final words), a preceding /a/ does not appear to be raised to [ɐ], but might be backed to [ɑ] instead, as in /afa/ ‘fire’ → [ɑfɑ], although the realisation [afa] should not be ruled out. Other examples are /arba/ → [ɑrba] ‘boy, son’.

These considerations suggest that the phonology of AAT might display two processes of vowel harmony, namely central harmony and low harmony, depending on the quality of the last filled nucleus: the first process would mean that not all of the vowels are raised but all of them need to be central, provided the last filled nucleus is central; the second process would entail that not all of the vowels are back, but all of them need to be low, provided the last filled nucleus is low.

/u/

The sound [u] is assigned phonemic status because of its seemingly wider distribution over the other allophones attested in the dialect.⁴³

/u/ → [u]:

This phoneme is realised as [u] in word-initial position, although the presence of a preceding coronal sound usually triggers centralisation to [ɰ]: this is very frequent, since, for instance, the possessor is usually preceded by preposition *n* in possessive phrases.

Furthermore, /u/ is also realised as [u] after velar sounds or labial sounds, as in /agurr/ → [aɣurr] ‘ear’, /afus/ → [afus] ‘hand’, /afud/ → [afud] ‘knee’, /jmmut/ → [immut] ‘3SG.M-die.PFV’. It also seems to be realised as [u] when, being word-final, it is not followed by a pause (i.e. in fast speech).

/u/ → [ɰ]:

It is realised as [ɰ] after coronal consonants, as in /tiflut/ → [tɪflɰt] ‘door’, /tiflulut/ → [tɪflɰlɰt] ‘flat stones laid atop a mud wall, slab’, /tanut/ → [tanɰt] ‘land having a pit in it’, /tagatut/ → [taɣatɰt] ‘small rope’, /tamalut/ → [tɛmɛlɰt] ‘small shadow’, /azul/ → [azɰl] ‘hello!’, /afullus/ → [afullɰs] ‘chicken’

/u/ → [ø] ~ [o] ~ [ʊ]

After pharyngeal and uvular sounds, and in pre-pausal position, /u/ seems to be predominantly realised as the close-mid, central, rounded vowel [ø]; alternative realisations are [o] and [ʊ]. Some example are provided below:

/u/ → [ø] / ɰ_, as in /lhu/ → /lhusajn/ → [lħøsejn] ‘Lhusayn’ (male name),

⁴³ Interestingly, text messages often spell out our phoneme /u/ as the letter ‘o’. This is probably due to the orthography conventions of French, whose ‘u’ letter obviously represents a front vowel. The French digraph ‘ou’ does not seem to be in wide use for the representation of /u/.

/taqʁubbaɟt/ → [taqʁəbbʰeɪt] ‘a place-name’, /aludʰ/ → [alodʰ] ‘mud’
 /ablʰ/ → [ablʰəh] ‘unripe date’ (the latter shows that this process overrides the centralisation of /u/ after coronal sounds, which would usually lead to [ʰ]);

/u/ → [ə] / ʁ_, as in [abʁəʃ] ‘monkey’, although this word is not widely-used in the village, where /zaʁdʰudʰ/ → [zaʁdʰədʰ] is used instead; /jqqr/ → [iqqər] ‘it is hard(ened)’;

/u/ → [ə] / _#, as in [anə] ‘pit, well’, [ayatʰə] or [ajatʰə] ‘rope’, [ɛməʎʰə] ‘shadow’, [aʁʰə] ‘sour milk’, [aggʰə] ‘smoke’, [azyʷʰə] ‘wind’. This is further shown by many masculine/feminine pairs which show a [ə] (alt.: [ʊ] or [o]) / [ʰ] alternation applying consistently:

/agatu/ → [ɛjətə] ‘rope’, cf. feminine /tagatut/ → [tɛjətʰt] ‘small rope’

/asklu/ → [ɛsçlə] ‘tree’, cf. feminine /tasklut/ → [tɛsçlʰt] ‘small tree’

/amalu/ → [ɛmələ] ‘shade, shadow’, cf. feminine /tamalut/ → [tɛməlʰt] ‘small shade, shadow’

/i/

This sound is realised as [ɪ] or [e] whenever affected by neighbouring uvular or pharyngeal sounds, and as [i] elsewhere:

/qqim/ → [qqɪm] ‘stay!’

/imiḥ/ → [imɪḥ] ‘a bit / at some point’

/taqidurt/ → [taqɪdʰrt] ‘a type of female dress’

This concludes the illustration of Ayt Atta Tamazight’s inventory of phonemes, allophones, and sounds in free variation.

§2.4 Assimilation processes

This section investigates some assimilation processes occurring in Ayt Atta Tamazight, which show some divergence from the phenomena attested in other Tamazight varieties.

§2.4.1 Assimilation of adjacent segments

Cross-morphemic assimilation is used in this section as a cover term for a set of processes usually known as external sandhi phenomena. These processes take place across morpheme (and/or word) boundaries. Ayt Atta seems to strongly favour regressive directionality as far as cross-morphemic assimilation is concerned. Both partial and total regressive assimilation are attested in Ayt Atta.

As for voicing assimilation, regressive assimilation is attested in both Ayt Atta and in other Berber varieties: cf. Northern Tamazight (Penchoen 1973: 7), Ghadames (Kossmann 2013a: 16), Figuig (Kossmann 1997: 61-62), and Tuareg (Heath 2005: 42ff.).

Voicing-assimilation processes occur across a number of morphosyntactic boundaries in Ayt Atta. In (2.12), the comitative preposition *id* is followed by its 3SG.M object *s*: the voiceless /s/ assimilates the preceding voiced /d/ (for each of the following examples, the first line shows the assimilation process and the second line provides an actual example; segments interested by the assimilation process are given in bold):

(2.12) /ds/ → [ts]

nna id s jχddmn ‘[...] who works with him’ → [...it s ...]

Similar voicing assimilations appear in the following examples. In (2.13), question particle *is* is followed by TAM particle *da*:

- (2.13) /sd/ → [zd]
is da ttɛtɛfat ilammn ‘Do you eat bran?’ → [...iz **da** ...]

In (2.14), the 3SG indirect object clitic *as* is followed by a verb:

- (2.14) /sg/ → [zg]
jkal wrba is qad as gulun jan iqqaridⁿ ‘The boy thinks that some money will arrive for him’ → [... az **ɣulən**...]

Internal sandhi phenomena also show regressive directionality, as seen in (2.15):

- (2.15) /tz/ → [dz]
t-zwa ‘It is/was dry’ → [**dzwa**]

One more example of regressive assimilation is the nasal and lateral release of dental sounds before /n/ and /l/, respectively:

- (2.16) /tl/ → [t^l]
t-lla ‘There is/was’ → [**t^llla**]

- (2.17) /tn/ → [tⁿ]
nitni ‘they’ (3PL.M) → [**nitⁿni**]

In addition to partial assimilations, total regressive assimilation is also attested in Ayt Atta. For instance, the particle *idd* is likely to stem from *is d*,⁴⁴ as in *jkal idd idrimn* ‘he thinks/thought that it is/was money’ (cf. *jkal is jqqima* ‘he thinks/thought that he stayed’). Another example is given in (2.18), where TAM particle *qad* is followed by the 2SG.M direct object clitic *k*:

- (2.18) /dk/ → [kk]
qad k jnɛ ‘He will kill you’ → [qak k ...].

This shows that both voicing and place of articulation spread from the velar sound to the preceding segment.

Another instance of total regressive assimilation in Ayt Atta involves word-final or standalone /n/ which is assimilated to the following word-initial /l/ (the resulting [ll] may be degeminated when preceding a consonant). This is a common assimilation, given the fact that most Arabic loanwords show an initial /l/ (an original definite article with no functional load in Berber). Two examples are provided below:

- (2.19) /nl/ → [ll]
χmsa n lkurasa ‘five chairs’ → [χmsa llkurasa]⁴⁵
ħan lmdint ‘There you see the cemetery’ → [ħeɛll lɛmdint]

The previous examples show that Ayt Atta seems to prefer regressive assimilation for both voicing and place/manner of articulation. This differs from other Berber

⁴⁴ The realisation *is d* is found elsewhere in the region, e.g. in Ayt Taghbalte (SIOu, p.c.).

⁴⁵ Incidentally, it seems that the sound [k] in the Arabic loanword [lkuras'a] is not spirantised as we would expect instead.

varieties, which may display some phenomena of partial or even total progressive assimilation. For example, Ghadames has some total assimilation involving regressive voicing and progressive spread of place and manner of articulation, as seen below (Kossmann 2013a: 16):

(2.20) $yt > xx$

$tənzǎy = tǎt = ən > tənzǎx = xǎt = ən$ ‘He pulled her over there’

A similar situation is attested in Figuig (Kossmann 1997: 61-62). Progressive assimilation is found in Northern Tamazight too: for example, /rn/ becomes [rr] in the variety spoken by the Ayt Ndhir (Penchoen 1973: 8). Analogous progressive assimilation obtains in some Southern Tamazight varieties, such as Ayt Mrghad (my data: SM) and Ayt Izdeg (Mercier 2013). This differs from Ayt Atta, where /rn/ never becomes [rr]: cf. *ajt kur-nk* ‘our family’, which is realised as [ɛjt kurnək] and [ɛjt kurrək] in Ayt Atta and Ayt Mrghad, respectively.

There seems to be only one exception to a possible generalisation concerning regressive assimilations in Ayt Atta: this concerns pharyngealisation. A word-final pharyngeal sound triggers progressive assimilation if a homorganic suffix is added, as in the following example:

(2.21) $d^f t > t^f t^f$

$arbbad^f$ ‘hat’ \rightarrow $tarbbad^f t$ ‘little hat’ $> [t^f ar^f bbat^f t^f]$

In (2.21), pharyngealisation spreads from morpheme-final d^f to the feminine suffix – t (and even further back, given the low-back realisation of penultimate /a/). This is

similar to the situation found in other dialects, such as Figuig (Kossmann 1997: 61) and Tamashek Tuareg (Heath 2005: 43-44).

To conclude, Ayt Atta seems to have a higher tendency towards regressive assimilation than some other Berber dialects. All of the examples provided in this section show that regressive assimilation may straddle different morphological boundaries. Only pharyngealisation behaves differently since it may occur progressively across morpheme boundaries.

§2.4.2 Long-distance assimilation

Berber languages are known to exhibit some other types of assimilation processes. In particular, *sibilant harmony* is what is here called a cross-morphemic process, whereas *i-harmony* is arguably an intra-morphemic process (at least synchronically). These phenomena differ from the ones illustrated in §2.4.1, as they do not involve the assimilation of adjacent segments.

Berber literature refers to sibilant harmony as a process of ‘long-distance assimilation’ (Heath 2005: 50-51). The phenomenon is widely-attested in Berber, being found in Ghadames (Kossmann 2013a: 61-62) and Tuareg (Heath 2005: 50-51), among other dialects.

Sibilant harmony requires that all of a word’s sibilant sounds be harmonised, i.e. that they have the same form. The existence of a sibilant causative prefix means that this assimilation is rather commonly found: whenever the causative morpheme is prefixed onto a stem containing a sibilant sound, the former harmonises to the latter.

This is seen root-internally too, even in possibly-recent borrowings from Arabic, such as the verb *ⵝⵝⵉ* ‘to record, score’ (used in football commentaries), from Arabic

saʒʒala: the AAT word shows the assimilation of the initial *s* to the geminate palatal which follows.

The second long-distance assimilation to be mentioned here is *i-harmony*. This is relevant to a diachronic account of the formation of some i-initial nouns. Dialectal comparison allows us to hypothesise that their initial vowel is possibly due to the assimilation of the usual *a-* prefix (cf. §3.1.2) to some root-internal *i* (for Tamashek Tuareg, cf. Prasse 1974: 14-15).

A good number of i-initial nouns can be accounted for as having undergone this type of assimilation. This is the case with a number of Latin loanwords, whose Berber nativised forms include i-initial and a-initial nouns, depending on whether an *i* segment was present in the original word or not: cf. AAT *ifilu* ‘thread’, from late Latin *filu*, and *afullus* ‘rooster, chicken’, from Latin *pullus* (cf. Vycichl 1957: for a brief comparative overview of the phenomenon).⁴⁶

The phenomenon is obviously seen in words of Berber origin too. For example, the initial vowel in an Ayt Atta word such as *isli* ‘groom’ is likely to have originated from the assimilation of an ancient prefix *a-* to the final vowel; cf. its non-harmonised cognate *asli* in Figuig Berber (Kossmann 1997: 112).

§2.4.3 Pharyngealisation

Pharyngealisation is another important feature of Berber phonology. There exists a noteworthy difference between pharyngeal sounds, which are produced by the intervention of a single articulator (the pharynx), and pharyngealised (aka emphatic) sounds produced by double articulation (one of the articulators being the pharynx).

⁴⁶ The word *igr* ‘field’ (probably from Latin *agr*) is likely to derive from the same process, although the original assimilation trigger has now disappeared.

Pharyngeal sounds /ħ/ and /ʕ/ are almost exclusively found in Arabic loans (Durand 1998: 40). As for pharyngealised sounds, only two such phonemes are usually reconstructed for Proto-Berber, namely /dʕ/ and /zʕ/ (Allati 2002; Basset 1952; Durand 1998; Kossmann 1999).⁴⁷ However, all Berber varieties have widened their repertoire of pharyngealised consonants mainly due to borrowing from Arabic.⁴⁸ For instance, phonemes /tʕ/ and /sʕ/ are said to have ultimately entered Northern Tamazight via Arabic loanwords (Durand 1998).⁴⁹

Northern Tamazight has six pharyngeal sounds, namely /ħ/, /ʕ/, /dʕ/, /zʕ/, /tʕ/, and /sʕ/ (Durand 1998). As for Ayt Atta, the situation is described in Amaniss (2009), according to which this dialect shows the same pharyngeal sounds listed in Durand (1998) for Northern Tamazight.

However, a few considerations need to be made. First, it should be noticed that, while phoneme /tʕ/ is generally attested as a geminate sound, there is dialectal variation concerning its presence as a short consonant: in particular, Berber dialects seem to be divided among those having phonemic /tʕ/ and those having phonemic /dʕ/, although some dialects might have both sounds (cf. Ayt Taghbalte; SIOu, p.c.).⁵⁰ Ayt Atta shows mixed behaviour in this respect, since some villages are characterised by the presence of /tʕ/ and others have its voiced counterpart instead.

⁴⁷ Cf. Durand (2004:72), which states that these two sounds, along with /k/ (realised as /ɣ/ in Berber), constituted a consonant triad which was opposed to two non-pharyngealised triads of sounds articulated in the same position, and which were voiceless and voiced, respectively. This source also reports that the same oppositions were also attested in Akkadian (a Semitic language). However, cf. Kossmann (1999: 249) who states that “the sonority of *q is not certain”.

⁴⁸ However, pharyngealised sounds are also found in words which are not of Arabic origin: these have been analysed as being due to expressive derivations or as belonging to semantic fields having some expressive connotations (Kossmann 1999: 246-248).

⁴⁹ Other pharyngealised sounds are regarded as allophones by Durand (1990: 49).

⁵⁰ In spite of reconstructing *dʕ* as a proto-Berber phoneme, Kossmann notices that its voiceless counterpart *tʕ* is found in many different places across the Berber-speaking world (cf. Kossmann 1999: 249).

Ayt Lfrsi belongs to the latter, showing /d^ʕ/ in both inherited Berber vocabulary and in Arabic (or Arabised) loanwords, including the sounds stemming from reflexes of Arabic /t^ʕ/. This may be seen below:

(2.22) Inherited Berber vocabulary

<i>ad^ʕad</i>	‘finger’
<i>ad^ʕar</i>	‘leg’
<i>ad^ʕgg^wal</i>	‘brother-in-law’
<i>ad^ʕil</i>	‘grapes’
<i>ad^ʕrd^ʕur</i>	‘blind’

(2.23) Ayt Lfrsi /d^ʕ/ < Arabic /t^ʕ/

<i>bad^ʕad^ʕa</i>	‘potato’
<i>mad^ʕifa</i>	‘tomato’
<i>ad^ʕbib</i>	‘doctor’

In addition to the sounds just discussed, it seems to be necessary to postulate the existence of at least a few more pharyngealised sounds, namely /l^ʕ/, /r^ʕ/, /ʃ^ʕ/, and /ʒ^ʕ/. The fact that no other emphatic sound is present in the following words shows that these are not the outcome of assimilation, but they have genuine phonemic status in Ayt Atta, although their occurrence is on the whole rather limited:

(2.24) Further pharyngealised sounds in Ayt Lfrsi Tamazight

/l ^ʕ /	as in <i>al^ʕl^ʕa</i>	→ [al ^ʕ l ^ʕ ɑ]	‘God’
/r ^ʕ /	as in <i>ar^ʕumi</i>	→ [ar ^ʕ omi]	‘foreigner (< Roman)’
/ʃ ^ʕ /	as in <i>abbu^ʕn</i>	→ [abbo ^ʕ ən]	‘breasts’
/ʒ ^ʕ /	as in <i>jʒ^ʕʒ^ʕa</i>	→ [Iʒ ^ʕ ʒ ^ʕ ɑ]	‘It smells bad’

There is also a difference between two sets of pharyngealised sounds: some of them are genuinely present in the lexical representation of words, whereas others are the result of assimilation to genuinely-emphatic sounds present in the relevant environment: as Abdel-Massih put it, the occurrence of underlying pharyngeal sounds “affects other non-emphatic segments to become emphatic” (Abdel-Massih 1971: 7).⁵¹ It is possible to refer to these as the primary and the secondary set of pharyngealised sounds, respectively.

The identification of the domain upon which pharyngealisation extends has not been determined yet and will constitute the object of future research. However, as noticed in §2.4.1, pharyngealisation is noteworthy in that it differs from other phonological processes by not being restricted to regressive directionality: indeed, pharyngealisation may spread progressively across morpheme boundaries, as shown above and repeated below:

$$(2.25) \quad d^{\text{f}}t > t^{\text{f}}t^{\text{f}} \\ \text{arbbad}^{\text{f}} \text{‘hat’} \rightarrow \text{tarbba}d^{\text{f}}t^{\text{f}} \text{‘little hat’} > [\text{tarbbat}^{\text{f}}t^{\text{f}}]$$

In (2.25), word-final feminine marker $-t$ becomes pharyngealised due to rightward spreading from the preceding consonant.

⁵¹ The set provided by Abdel-Massih for his study on northern Tamazight (Abdel-Massih 1971) includes /t/, /d/, /s/, /z/, /l/, and /r/. Galand (1988: 215) lists as many as seven pharyngealised sounds in his description of Ighchan Tashlhiyt, adding a voiced palatal fricative to a set which includes all the sounds listed by Abdel-Massih for Ayt Ayache. However, he mentions that this sound, along with /l/ and /r/ is only very rarely used in a contrastive way.

§2.4.4 Dissimilation processes

Section §2.4 has so far investigated a number of assimilation processes attested in Ayt Atta and other Berber varieties. There is another phenomenon which plays some role in the morphophonology of Berber, namely the presence of dissimilation processes. This phenomenon is essentially the opposite than assimilation, since two sounds end up dissimilating some previously-shared feature. For instance, a passive prefix *n-* is accounted for as stemming from the delabialisation of the usual reciprocal/passive prefix *m-* whenever the root contains a labial sound (Souag 2010a: 358).

Dissimilation processes are attested in Ayt Atta as well, for example in borrowings: for example, the French loanword ‘automobile’ is variously realised as either *tʰtʰumubil* or *tʰtʰunubil*, the latter showing dissimilation of *m* due to the presence of labial sound *b* in the word.

Another form of labial dissimilation can be seen in the passive form *jttjabbaj* ‘it was/has been torn’, where the expected passive prefix *-ttw* is changed into *-ttj* because of the root’s labial sound. Other data showing labial-vowel dissimilation are provided by Perfective verb forms such as *jiwj* ‘to bring, take’, *jiwl* ‘to get married’, and *jiwɛ* ‘to eat’: these show an unexpected vocalic pattern, since the usual vowel *u* found in Perfective forms is replaced by *i* due to the presence of the labial-velar glide *w*: cf. data from Ayt Seghrouchen, which shows u-retention instead, as seen in *juwj aɣrum* ‘he took some bread’ (Bentolila 1981: 261).

§2.5 Schwa

The phonological systems of most Berber languages are characterised by limited vocalic inventories. This mainly applies to Northern Berber, whereas Tuareg and Eastern-Berber dialects have larger sets of vowels.

One of the central questions in Berber phonology concerns the reduced vowel known as *schwa*, also referred to as a *vocoid*, or vowel-like element. This issue has paramount importance for both the delimitation of vocalic inventories and the definition of permissible syllable structures.

The status of schwa varies across Berber. The vowel is phonemic in some dialects, e.g. in Tuareg (Heath 2005; Kossmann 2011), whereas it may be accounted for on phonetic grounds or as the result of epenthesis in many varieties.

Data collected in the field indicates that schwa is indeed attested in Ayt Atta. Its predictable realisation means that it cannot be assigned phonemic status, although some marginal, dubious cases could assign some weight to a phonemic interpretation instead.⁵²

In spite of its non-phonemic status, the need for a theoretical separation between two types of schwa-like elements is emphasised in recent publications on the topic (Fougeron & Ridouane 2008). These two types of schwa are briefly sketched in the following two sections.

§2.5.1 *Schwa as a non-structural vocoid*

The first type of schwa is not the result of phonological epenthesis, as it does not meet the requirements mentioned in §2.5.2, below. This schwa-like sound is a

⁵² For instance, there might be a contrast between the word [lmən] ‘peace’ and the expression indicating a ‘hand foul’ (football infraction), which some people seem to realise as [ləmən] (from French *la main*).

vocoid which has no structural role whatsoever. As the authors of some important work on the topic phrase it, “these vocalic elements are mere transitional vocoids which do not play any role in syllable structure” (Fougeron & Ridouane 2008: 441). Such schwa-like elements are essentially motivated by the particular phonetic make-up of individual neighbouring segments, such as [r] (Rachid Ridouane, p.c.).

This seems to account for Ayt Atta words such as *abrid* (‘road’), *abra* (‘button’), or *asram* (‘diarrhoea’), which are realised as [abərɪd], [abərɔ], and [asərɐm], respectively: here schwa’s predictability is not due to syllabic constraints but to the phonetic environment.

§2.5.2 Schwa and syllable structure

The second type of schwa stems from phonological epenthesis and consists in “a segment which can be manipulated by phonological grammar”, “can act as a syllable peak”, and which “has its own temporal specifications and articulatory gesture” (Fougeron & Ridouane 2008: 441). This notion of schwa as an epenthetic vowel is well-known both in general phonological theory and in the literature on Berber (Abdel-Massih 1971; Bader 1985; Kossmann & Stroomer 1997; Kossmann 1995; Saib 1976).

A few general rules for schwa epenthesis in Berber are discussed in Kossmann (1995). Such rules seem to apply to AAT as well and are briefly illustrated in what follows. First, schwa is realised in between the two members of a consonant cluster, provided the cluster itself is not followed by a vowel (including schwa): this entails that schwa may only occur in closed syllables. Data illustrating this rule are *jnk* → [ɪnək] ‘he killed’ ~ *nkən* → [nəkən] ‘they (m.) killed’ and in *jkr* → [ɪkər] ‘he read’ ~ *kran* → [kɾən] ‘they (m.) read’, among many other examples. This rule applies from

right to left, hence a consonant cluster of the $C_1C_2C_3$ type is usually syllabified as $C_1C_2\text{ə}C_3$ (whenever it is not followed by a vowel), as in $j\text{sk}r \rightarrow [\text{is}\text{ç}\text{ər}]$ ‘he did’.⁵³

However, other factors are to be considered for a fuller account of syllabification, since schwa can also surface before a bisegmental, word-final consonant cluster, as in $j\text{b}rs \rightarrow [\text{i}\text{b}\text{ə}rs]$ ‘he slaughtered’, whereas it is not realised at all in other cases, as in $j\text{k}ks \rightarrow [\text{ik}ks]$ ‘he removed’, $j\text{f}sta \rightarrow [\text{if}sta]$ ‘he kept quiet’, and $\text{th}la \rightarrow [\text{th}la]$ ‘she is/was good’.

One factor discussed in the literature concerns the sonority of consonants, which plays an important role in many Moroccan Berber varieties, determining where schwa is to be realised within the word (Kossmann 1995: 75). This makes it possible to have $C_1\text{ə}C_2C_3$ structure, provided C_2 has higher sonority than C_3 . AAT behaves in a similar fashion, as can be seen by words such as $i\text{b}rm \rightarrow [\text{i}\text{b}\text{ə}rm]$ ‘village, castle’ and abovementioned $j\text{b}rs \rightarrow [\text{i}\text{b}\text{ə}rs]$ ‘he slaughtered’.

However, AAT also shows words having large consonant clusters and no trace of schwa, as in $j\text{f}sta \rightarrow [\text{if}sta]$ ‘he kept quiet’ and $\text{tt}\text{f}t \rightarrow [\text{tt}\text{f}t]$ ‘eat (Aorist, 2SG)’. This possibly suggests that consonants are assigned a nuclear (i.e. vocalic) position within the syllable; this would be similar to the situation attested in Tashelhiyt, at least according to certain analyses (cf. Dell & Elmedlaoui 1985).

A complete account of schwa epenthesis is not undertaken in this work. However, it should be remarked that some segments seem to be more likely to occupy nuclear position than others. For instance, l and n seem to do so whenever they follow dental stops, in which case the stops themselves are released laterally and nasally, respectively: e.g. $j\text{t}tl \rightarrow [\text{itt}^l]$ ‘he climbed’; $\text{t}na \rightarrow [\text{t}^nna]$ ‘she said’; $j\text{rd}l \rightarrow [\text{ird}^l]$

⁵³ In Kossmann’s notation, *e* stands for schwa. Subscripts are mine and do not necessarily indicate that the consonants are different from one another.

‘he fell’; *mddn* → [məddⁿn] ‘people’. This possibility is not available to other segments (e.g. *r*: cf. *jttr* → [ittər] ‘he asked’).

A more detailed analysis of epenthesis and syllable structure in Ayt Atta is postponed until later publications.

§2.5.3 *Glide/vowel confusion and schwa colouring*

The investigation of schwa proves useful with regard to another well-known issue in Berber phonology, namely the confusion of *w* and *j* with *u* and *i*, respectively. The properties of segments *w* and *j* show some ambiguity, since these segments may trigger consonant-like (i.e. [w] and [j], respectively) or vowel-like (i.e. [u] and [i], respectively) realisations. These alternating realisations may possibly be accounted for as due to syllable structure. However, the phonological status of *w* and *j* is assured, as the remainder of this section will show.

There is plenty of data pointing to the ambiguous status of these sounds in Ayt Atta. For instance, the *w* ~ *u* alternation is seen in *jrwl* ‘he ran’, which is alternatively realised as [irwəl] and [irəl], respectively, whereas the *j* ~ *i* alternation is found in the singular and plural forms of the word meaning ‘man’, which are *arjaz* and *irizn*, respectively (cf. Tasousit *argaz* ‘man’, *irgazn* ‘men’). On the other hand, some words never show this alternation: e.g. *janug* ‘he looked for’ is realised as [janɨ] and never as *[janwɨ].

This phenomenon seems to correlate with some phonetic characteristics of schwa which deserve further clarification. The previous sections may have generated the idea of schwa as a well-distinguishable unit, albeit one variously accountable for on either phonetic or phonological grounds. However, close examination clearly shows that several types of schwa-like sounds are attested in Ayt Atta Tamazight. This

phenomenon is widespread across Berber and is referred to here as *schwa colouring*, i.e. the particular phonetic realisation of extra-short vowels depending on the surrounding environment.

This phenomenon is attested in other Berber varieties too. The phonetic transcription provided in old Berber literature often graphically represents a proliferation of short vowels, as is the case with some publications on the Libyan-Berber dialect spoken in Awjila (Paradisi 1960; Paradisi 1961). A detailed analytical work on Paradisi's texts has recently revealed the staggering amount of signs used for transcribing schwa therein; the full list is reproduced below (van Putten 2013: 36):

(2.26) $\varnothing \rightarrow <e, \acute{e}, \text{e}, \acute{e}, \text{e}, \check{e}, (i, \acute{i}, \check{i}), \ddot{a}, \check{\ddot{a}}, a, \acute{a}, \check{a}, (\ddot{o}, u, \acute{u}, \check{u}), \ddot{u}, \check{\ddot{u}}, o, \acute{o}, \check{o}, \text{å}, \check{\text{å}}>$

Schwa has phonemic status in Awjila but some of these signs transcribe an epenthetic vowel (van Putten 2013: 30). In particular, “<ĩ> is only used once as a short epenthetic vowel before *y*, and <ũ> is used as a short epenthetic vowel before *w*” (van Putten 2013: 30). The original notation adopted by Paradisi undoubtedly points to schwa colouring, notably to what is referred to below as [i]-colouring and [u]-colouring, respectively.

The proliferation of schwa-like sounds attested in Awjilah and the association between some of these sounds and the semivowels *w* and *j* characterise other Berber varieties and Ayt Atta is certainly among these. There seems to be a correlation between the presence of either semivowel and the possible realisation of a schwa-like sound immediately adjacent to it. Some data from the paradigm of the verb meaning ‘to give birth’ are used for illustrative purposes in what follows.

A superficial analysis does not clarify whether the Perfective stem of this verb is *uru* or *urw*, since paradigm data may be compatible with either hypothesis: this is another example of the above-mentioned confusion between *w* and *u*.⁵⁴ The option that the verb has final /u/ is supported by forms such as [u'ruk] (1s) and [tɛ'rɛt] (2SG): here the hypothesised final /u/ would be predictably realised as [u] or [ɛ], depending on the phonological environment (i.e. as [u] before a uvular sound, as [ɛ] between coronals). Furthermore, stress placement would confirm the vocalic status of the segment under discussion (more on stress in §2.6).

However, such forms as [tɛ'rɛw] 'she gave birth' cast some doubt on the hypothesis that the stem is *uru*, since /u/ would normally undergo lowering to [u] or [o] in word-final position: this is obviously not the case here, since labialisation is apparent. Furthermore, stress placement too points against this hypothesis, since stress falls on the vowel following initial [t] rather than on the hypothesised final vowel (cf. §2.6).

Conclusive evidence pointing to underlying *urw* comes from the formation of the Negative Perfective (henceforth NPFV) stem. This verb stem is formed out of the (positive) Perfective (henceforth PFV) in a number of ways (cf. chapter 5). What is relevant here is that when the Perfective stem ends in a consonant cluster, the NPFV is formed by infixation of *i* in between the last two members of the cluster:

(2.27) Formation of Negative Perfective with –CC-final PFV stems

<i>j-ukr</i>	3SG.M-steal.PFV	→	<i>j-ukir</i>	3SG.M-steal.NPFV
<i>j-sfld</i>	3SG.M-listen.PFV	→	<i>j-sflid</i>	3SG.M-listen.NPFV

⁵⁴ Several verbs behave in a similar fashion: e.g. *wɛ* 'to hit' (illustrated in §4), and *rwɛ* 'to run'.

Stems ending in a single consonant do not allow for the infixation to take place, and the NPFV will then have the same form as the PFV:

(2.28) Formation of Negative Perfective with –CVC-final PFV stems

j-akul 3SG.M-go_back. PFV → *j-akul* 3SG.M-go_back.NPFV
j-anug 3SG.M-look_for. PFV → *j-anug* 3SG.M-look_for.NPFV

The verb ‘to give birth’ does show infixation of [i], as shown by a comparison of the phonetic realisation of PFV and NPFV (3SG.F) forms, which are [ʰtʰrũw] and [tʰriw], respectively. This suggests that the stem is not vowel-final, but the consonant /w/ is present instead. Therefore, it may be argued that the two members of the final consonant cluster of the Perfective stem *urw* are divided by an epenthetic schwa-like vowel, a sound which is [u]-coloured due to the presence of /w/ in its immediate proximity.

The case of [i]-coloured schwas is frequently attested too. Once again, their occurrence is predictable, hence no phonemic status can be assigned to this sound, which simply represents the phonetic colouring taken by epenthetic schwa in an alveopalatal environment: cf. [iʰja] ‘3S.M.be’, and [tʰiʰja] ‘3S.F.be’, (the underlying representation of these verb forms being /jga/ and /tga/, respectively).

To summarise, this section has shown that morphological evidence can be used in order to test for the phonological nature of some segments which show alternative phonetic realisations. This seems to provide evidence as to the reason why some words show these alternative realisations and some words never do: the former have an underlying semivowel, whereas the latter have a phonemic vowel instead. It has also shown that schwa is given varying phonetic colouring depending on the phonological environment.

§2.6 Stress

Stress is reportedly non-contrastive in Northern Tamazight, although views concerning its placement differ. In the Ayt Ayache variety, stress placement seems to be entirely predictable, as it “falls on the last vowel of the word”, be it a full vowel or schwa (Abdel-Massih 1971: 17-18). However, Ayt Atta words such as *asammr* (pronounced [a'səmmər],⁵⁵ ‘sun-drenched area’) do not seem to fit within Abdel-Massih’s generalisation, as the last vowel in the word is an unstressed schwa.

In his grammar of Ayt Ndhir (Northern Tamazight), Penchoen dedicates just a few lines to the topic, stating that “stress is not part of the make-up of a lexical item but rather arises in syntactic groups”, although the end of the word seems to receive “rather more stress than the beginning” (Penchoen 1973: 11)⁵⁶.

In spite of its brevity, Penchoen’s statement seems to capture the essence of the phenomenon. The elicitation of Ayt Atta verb paradigms shows that stress falls on a verb’s last vowel, whenever possible. However, there are many vowelless verb forms in Ayt Atta: in such cases, the stress may fall on an element preceding the actual verb form, be it a TAM particle or a clitic. This is seen below:

(2.29) *riḵ a lṣḅ*^{AOR} ‘I want to get dressed’ → [riḵ 'a lṣəḵ]

(2.30) *lṣḅ*^{PFV} ‘I wore’ → [l'səḵ]

In (2.29), stress falls on the TAM particle *a* preceding the Aorist verb form, whereas (2.30) shows the same verb in the Perfective.

⁵⁵ The word *asammr* contrasts with *amalu* (lit. ‘shade, shady area’), to indicate the land inhabited by southern and northern Ayt Atta, respectively.)

⁵⁶ This is a view essentially shared by Chaker (1995: 113), which claims that there is “no intrinsic word stress but only phrase stress” in Kabyle.

§2.7 Further observations

This section provides some observations about the existence of possible mismatches between phonological word and syntactic word. First, it seems that some compound forms allow for two alternative phonetic realisations. The 2SG Imperative form of the verb ‘come’ consists of a preverbal particle *a*,⁵⁷ the actual verb *ddu*, and the ventive clitic *d*. These may be realised as either [addɐd] or [addud]. In the former, the final *d* would best be analysed as having been integrated in the verb, so that the verb and the particle would form one phonological word; the latter case shows that the particle is not part of the same phonological word as the verb, since /u/ is realised as [ʊ], which is the expected lowering of /u/ in word-final position.

This points to a mismatch between phonological word and syntactic word: the particle *d* always moves to preverbal position under the proper conditioning syntactic factors, which suggests it is not part of the same syntactic word including the verb, but the realisation of /u/ as [ʊ] in the first of the Imperative forms provided suggests that the particle and the verb constitutes a single phonological word.

Another mismatch is seen in Aorist forms preceded by TAM particle *a(d)*: it is the latter that bears the stress, leaving the Aorist verb form unstressed. This was seen in section §2.6.

§2.8 Conclusion

This chapter has illustrated the phonological system of Ayt Atta Tamazight. This variety displays many of the features attested in most Northern Berber varieties,

⁵⁷ There are two reasons why this particle cannot be identified with the irrealis particle *ad*: first, *ad* is a TAM particle which cannot be combined with Imperative forms but is used with finite verb forms instead (with either Aorist or Imperfective forms); second, *ad* triggers clitic attraction, which is not seen here, since the ventive clitic is realised in post-verbal position (i.e. it is not attracted to preverbal position). See the paragraph on TAM particles for further details.

although it differs from those in some respects: for instance, fewer sounds receive a fricative realisation than in more-northerly varieties, which places AAT somewhere in between Northern Tamazight and Tashelhiyt (whose plosive phonemes are indeed phonetically-realised as non-continuants); furthermore, AAT shows a higher tendency towards regressive assimilation than other Berber dialects, including southern-Tamazight varieties spoken by neighbouring tribes such as Ayt Merghad. Further work on both the domain of pharyngealisation and the relation between schwa and syllable structure is deferred to future research.

Chapter 3

Nominal Morphology

The study of nominal morphology provides important evidence for the inclusion of Berber into the Afroasiatic phylum (Cohen 1988b). In particular, the nominal morphology of Berber shows one of the characteristic features of Afroasiatic languages, namely the use of templatic morphology. For example, some plural templates closely resemble the ones attested in sister languages such as Semitic (cf. Greenberg 1955).

This chapter describes the main morphological properties of nouns in Ayt Atta Tamazight. The section is organised as follows: section §3.1 provides a classification of AAT nouns into bare nouns (§3.1.1) and prefixed nouns (§3.1.2); in particular, §3.1.2 provides a background discussion on the characteristics of nominal prefixes (§3.1.2.1) and an illustration of the analysis adopted in the present work (§3.1.2.2). This initial discussion paves the way for section §3.2's detailed illustration of the formal and functional properties of the three main morphological features attested in the nominal system, namely number (§3.2.1), gender (§3.2.2), and state (aka *case*; §3.2.3). Finally, section §3.3 details the properties of numerals: these are illustrated in this chapter by virtue of their nominal characteristics.

§3.1 A first classification of AAT nouns

Similarly to the nominal morphology of other Berber varieties, Ayt Atta Tamazight nouns may be divided into two groups, bare nouns and prefixed nouns (cf. Kossmann 1997: 69ff.). These are separately discussed below.

§3.1.1 Bare nouns

Bare nouns only consist of a base, which provides the mere semantic content of the lexeme. These nouns are invariable in their singular form, although they may be inflected by number in the plural, via either internal modification or suffixation.

Bare nouns may be in turn divided into several groups. The first group includes a large number of nouns borrowed into Berber from Arabic or French (or from other European languages). A few examples of such nouns are provided in (3.1):

(3.1) Arabic and Arabised loanwords

<i>lasʔl</i>	‘origin’ (Ar.)
<i>lbanju</i>	‘tub’ (Sp.)
<i>lbidu</i>	‘bucket’ (Fr.)
<i>lbutaj</i>	‘gas cylinder’ (Fr.)
<i>lfirq</i>	‘difference’ (Ar.)
<i>lhdid</i>	‘iron’ (Ar.)
<i>lxmis</i>	‘Thursday’ (Ar.)
<i>lmdint</i>	‘cemetery’ (Ar.)
<i>lqbar</i>	‘grave’ (Ar.)

Arabic loanwords usually retain the original definite article (phonologically reduced to *I*⁵⁸), which however is functionally vacuous in Berber; French (European) loanwords are often characterised by an initial lateral segment too, whose presence is probably motivated by their having entered Ayt Atta via some form of Moroccan Arabic (but cf. Romance definite article *la*, which may also partially account for the initial *l* displayed by European loanwords into Berber).

A second (tiny) group of bare nouns include items of Berber origin and some Arabic loanwords without prefix⁵⁹. Kinship terms of both Berber and Arabic origin belong here. A few examples are provided below:

(3.2) Bare nouns in AAT

<i>fad</i>	‘thirst’
<i>laz</i> ^ʿ	‘hunger’
<i>bba</i>	‘father’
<i>mma</i>	‘mother’
<i>ijma</i>	‘brother’
<i>illi</i>	‘daughter’
<i>mmmi</i>	‘son’
<i>χali</i>	‘maternal uncle’

A third group of invariable bare nouns is likely to have resulted from the eventual syncretism of previously-inflected forms: this concerns a set of i-initial nouns.

⁵⁸ This initial *I* is assimilated to a noun-initial consonant, whenever the latter is a coronal sound, resulting in a large number of geminate-initial nouns (e.g. *s^ʿs^ʿajf* ‘summer’): this obviously follows the morphophonological rules of Arabic.

⁵⁹ These Arabic loanwords have no prefix since they are possessive forms in Arabic: the 1SG Arabic possessive pronoun has been reanalysed as belonging to the stem in Berber: e.g. *χali* ‘my (maternal) uncle’, *χalinns* ‘his (maternal) uncle’.

However, these items are discussed in the following section, since the original distinction was encoded in their inflected prefix.

Finally, there is a last group of bare nouns, although of a special type: numerals. These are separately discussed in §3.3.

§3.1.2 *Prefixed nouns*

In addition to bare nouns, a large group of nouns may be referred to as *prefixed nouns*. The next two sections put forward a general illustration of this nominal type alongside an analysis of noun prefixes in Ayt Atta.

§3.1.2.1 *Nominal prefixes – General illustration*

This is a group which includes most items of Berber origin. These nouns are characterised by word-initial elements expressing a variety of features, namely number, gender, and state (also referred to as *case*). Masculine plural forms and feminine nouns may further have word-final markers of plurality (and possibly undergo different forms of ablaut: cf. §3.2.1). The entire paradigm of the nouns *afullus*⁶⁰ ‘rooster, chicken’ and *tafullust* ‘hen’ are provided for illustrative purposes (more data are provided below):

(3.3) Paradigm of *afullus* ‘rooster, chicken’ and *tafullust* ‘hen’

	SG		PL	
	AS	DS	AS	DS
M	<i>afullus</i>	<i>wfullus</i>	<i>ifullusn</i>	<i>ifullusn</i>
F	<i>tafullust</i>	<i>tfullust</i>	<i>tifullusin</i>	<i>tfullusin</i>

⁶⁰ Citation words are given in the so-called *absolute state*.

The labels AS and DS stand for *absolute state* and *dependent state*, respectively: these are case-like forms and their distribution represents an instance of a marked-nominative system (see §3.2.3).

The morphological characteristics of these initial prefixes vary across Berber: there are noteworthy differences between Northern Berber and Tuareg, whereas a state distinction is neutralised in Eastern Berber: see Chaker (1995a) and Prasse (1974) for a comparative discussion.

Before detailing how the prefixes are analysed in this work, it is worth discussing how the system is said to have evolved, as this provides some necessary background to the following discussion.

According to an influential theory, the nominal prefixes found in Berber are likely to have evolved out of gender- and number-inflected definite articles (Vycichl 1957). This is in turn likely to have represented an evolution from earlier demonstratives.⁶¹

This view essentially relies on the synchronic formal correspondence between demonstratives and noun prefixes in Northern Berber varieties, which is indeed attested in Ayt Atta as well (cf. §4.2). Furthermore, this is in agreement with literature on grammaticalisation, which claims that the evolution of demonstratives into definite articles is very common cross-linguistically (cf. the evolution of Latin demonstratives into Romance definite articles). Indeed, the grammaticalisation of demonstratives into definite articles “constitutes the most frequent way in which definite articles evolve” (Heine & Kuteva 2002: 110).

⁶¹ This view is widely held in Berber literature, but cf. Chaker (1995) for an alternative account, resting on the hypothesis that the observed absence of *w* in the dependent state of Tuareg points to a Northern Berber innovation. However, Brugnatelli (1997) rejects Chaker’s proposal by showing how new evidence from Tuareg poetry and toponyms indicates the former existence of *w* as a dependent state marker in that language too.

The process which occurred in Berber certainly went further, since those prefixes can no longer be accounted for as markers of definiteness. In addition to marking number and gender, the prefixes also correlate with a *state*-marking function, arguably acquired in more recent times. This development was possibly due to variation of stress placement in the word, which would eventually determine a morphological contrast between *absolute-state* noun forms and *dependent-state* ones (Brugnatelli 1997). These noun forms essentially correspond to a variation in case marking (Creissels 2009): see §3.2.3 for an illustration of state.

The creation of state alternations represented a disruption in the structure of prefixes which formerly expressed gender and number agglutinatively. This means that a one-to-one correspondence between form and meaning is no longer possible. For example, morphemes such as *w-* and *-i-* can no longer be straightforwardly interpreted as markers of masculine gender and plural number, respectively: their function needs to be reanalysed in the light of their synchronic distribution. The interpretation of Ayt Atta noun prefixes put forward in this work is discussed in what follows.

§3.1.2.2 Nominal prefixes – Analysis

This section provides a synchronic investigation of noun prefixes in Ayt Atta. Masculine nouns are illustrated separately from feminine ones, since they show a fundamentally-different behaviour.

Most masculine singular Ayt Atta nouns are only marked for state, i.e. they are morphologically unmarked for both gender and number; this is seen in (3.4); in these data and the ones which follow, words on the left are in the absolute state (glossed AS), whereas their corresponding dependent state forms are on the right (glossed DS):

(3.4) Masculine nouns marking an absolute state ~ dependent state distinction

AS		DS
<i>a-funas</i>	‘bull’	<i>w-funas</i>
<i>a-malu</i>	‘shade’	<i>w-malu</i>
<i>a-rba</i>	‘boy’	<i>w-rba</i>
<i>a-rjaz</i>	‘man’	<i>w-rjaz</i>
<i>a-kjul</i>	‘donkey’	<i>w-kjul</i>
<i>a-sgg^{was}</i>	‘year’	<i>w-sgg^{was}</i>
<i>a-sammr</i>	‘sun-drenched area’	<i>w-sammr</i>

This group of nouns is characterised by an *a-* / *w-* alternation in their singular form.

A group of masculine singular nouns are similarly characterised by being marked by state although they retain the initial vowel in the dependent state, suggesting that that vowel is not a prefix but is part of the root instead; this means their absolute state is unmarked:

(3.5) Masculine nouns only marked in the dependent state

AS		DS
<i>Ø-ad^u</i>	‘smell’, ‘situation’	<i>w-ad^u</i>
<i>Ø-akal</i>	‘soil, land’	<i>w-akal</i>
<i>Ø-allas</i>	‘lunch’	<i>w-allas</i>
<i>Ø-alud^ʔ</i>	‘mud’	<i>w-alud^ʔ</i>
<i>Ø-aman</i> [PL]	‘water’	<i>w-aman</i>
<i>Ø-arraw</i> [PL]	‘offspring’	<i>w-arraw</i>
<i>Ø-awal</i>	‘word, language’	<i>w-awal⁶²</i>
<i>Ø-izm</i>	‘lion’	<i>j-izm</i>
<i>Ø-ul</i>	‘heart’	<i>w-ul</i>

⁶² This word is special in that it provides mixed evidence concerning the status of its initial *a*: its plural is *iwaliwn*, which shows that *a* is retained in the singular and dropped in the plural.

This group of nouns is characterised by a \emptyset - / w - ~ j - alternation in their singular form.

There is one more group of masculine nouns which show absence of all marking in the singular; this group consists of i -initial nouns:

(3.6) Masculine singular nouns unmarked for state

AS		DS
<i>ibrurj</i>	‘hail’	<i>ibrurj</i>
<i>ifɪkr</i>	‘snake’	<i>ifɪkr</i>
<i>imi</i>	‘mouth’	<i>imi</i>

Strictly-speaking, these nouns are bare nouns and could have been included in §3.1.1. However, they are discussed here since they are likely to have stemmed from the syncretism of previously-distinct absolute and dependent states. The hypothesis is that such nouns were previously marked with initial j - in the dependent state, which eventually merged with their root-initial i due to phonological reasons (Chaker 1995b: 39-41).

As for masculine plural nouns, most of them are marked for number and unmarked for state (i.e. AS = DS), although some items are marked for state instead. This is shown in (3.7) and (3.8), respectively:

(3.7) Masculine plural nouns marked for number

PL (AS = DS)		
<i>i-fullus-n</i>	‘PL-rooster-PL’	(<i>a-fullus</i> ‘AS-rooster’)

(3.8) Masculine plural nouns marked for state

AS		DS
<i>abbuʃˁn</i>	‘breasts’	<i>w-abbuʃˁn</i>
<i>ajjur-n</i>	‘months’	<i>w-ajjurn</i>
<i>alln</i>	‘eyes’	<i>w-alln</i>
<i>aman</i>	‘water’ ⁶³	<i>w-aman</i>

On the other hand, the scenario concerning feminine prefixed nouns displays perfect symmetry: all feminine singular nouns are marked for gender and most of them are also marked for state; an analogous situation is attested in the plural.

This asymmetry in the analysis of masculine and feminine nouns is in keeping with the asymmetry displayed by the data. This may be ultimately accounted for by stress-related and sandhi phenomena (cf. Brugnatelli 1997).

The analysis provided above allows for the paradigm of the noun *aʃullus* to be revised as follows:

(3.9) Paradigm of *aʃullus* ‘rooster, chicken’

	SG		PL	
	<i>a-ʃullus</i>	<i>w-ʃullus</i>	<i>i-ʃullus-n</i>	<i>i-ʃullus-n</i>
M	AS-rooster	DS-rooster	PL-rooster-PL	PL-rooster-PL
	<i>t-a-ʃullus-t</i>	<i>t-Ø-ʃullus-t</i>	<i>t-i-ʃullus-in</i>	<i>t-Ø-ʃullus-in</i>
F	F-AS-rooster-F	F-DS-rooster-F	F-AS-rooster-PL	F-DS-rooster- PL

Examples (3.4) through to (3.9) allow for the extraction of the number-gender-state markers listed in (3.10). For the sake of convenience, the endings of some “sound

⁶³ This word is morphosyntactically plural across Berber.

plurals” are provided in brackets (sound plurals involve nouns which form their plurals concatenatively; more plural types are illustrated in §3.2.1).

(3.10) Number-gender-state prefixes in Ayt Atta

		SG		PL	
		AS	DS	AS	DS
M	(i)	<i>a-</i>	<i>w-</i>	<i>i-....(-n)</i>	<i>i-....(-n)</i>
	(ii)	\emptyset -	<i>w-</i>	\emptyset -....(- <i>n</i>)	<i>w-....(-n)</i>
	(iii)	\emptyset -	<i>j- ~ \emptyset-</i>	\emptyset -....(- <i>awn</i>)	\emptyset -....(- <i>awn</i>)
F	(iv)	<i>t-a-....(-t)</i>	<i>t-\emptyset-....(-t)</i>	<i>ti-....(-in)</i>	<i>t-\emptyset-....(-in)</i>
	(v)	<i>t-....(-t)</i>	<i>t-....(-t)</i>	<i>t-....(-in)</i>	<i>t-....(-in)</i>

In (3.10), (i) refers to nouns such as *afulus* ‘rooster, chicken’, as seen in (3.3) and (3.9); (ii) is exemplified by nouns such as *akal* ‘soil, land’, as seen in (3.5); (iii) refers to i-initial nouns such as *izm* ‘lion’ and *imi* ‘mouth’, as seen in (3.5) and (3.6) respectively; (iv) and (v) refer to nouns such as *tafruxt* ‘palm tree’ and *tallunt* ‘drum’, respectively.

This general introduction to noun features has mainly aimed at clarifying some of the issues concerning noun prefixes. A more-detailed illustration of the properties of number, gender, and state in Ayt Atta is provided in the next three sections.

§3.2 Number, gender, and state

This section is organised in three parts which detail the formal properties of number (§3.2.1), gender (§3.2.2), and state (§3.2.3).

§3.2.1 Number

All Berber nouns (minus a few exceptions) morphologically mark the distinction between singular and plural form: this is expressed via either templatic or concatenative morphology.

The similarities between a subset of Berber plurals (the so-called *internal a-plurals*) and cognate forms in sister languages were interpreted as “further confirmation of the reality of the Hamito-Semitic family” (Greenberg 1955: 204).

The terminology employed by Greenberg usefully summarises the main features of Berber plurals: these can be divided into internal, external, and mixed plurals, depending on where plurality is marked in the word; these definitions deliberately neglect the abovementioned word-initial prefixes, which indeed mark number but which “are of separate historical origin” (Greenberg 1955: 201).

Berber shows dialectal variation as to the morphological implementation of Greenberg’s tripartite classification: for instance, some varieties may possess one or more templatic patterns which are not attested in other dialects (cf. Souag 2010a: 77).

Early accounts of plurality in Berber individuated a large amount of plural types. This staggering morphological variation was eventually reduced to only eleven types in Prasse (1974: 50ff.). Following Souag (2010a: 77), the eleven plural types established for Tuareg in Prasse (1974) are adopted as a convenient starting point, in order to allow for cross-dialectal comparison. Divergences from these types will be duly illustrated further below (see Souag 2010a: 77ff. for further references and comparative notes).

The eleven plurals are illustrated in what follows, briefly summarising their morphological features and providing some considerations on their distribution.

Whenever a plural type includes or is related to some plural subtypes, the latter are displayed separately with a brief indication of how they diverge from the main type.

Plural 1 is “by far the most frequent plural type” in Tuareg (Prasse 1974: 1) and is commonly attested in both Ayt Atta and across Berber. Similarly to the *sound plurals* of Semitic, this plural type is characterised by the use of concatenative morphology and the absence of ablaut: the root remains unaltered and there is mere circumfixation of plural markers. This is seen in the examples provided below:

(3.11) Plural 1 → affixation (M: (i)....-n; F: (ti)....-in)

<i>a-baw</i>	‘fava bean’	>	<i>i-baw-n</i>
<i>a-d^ʕar</i>	‘foot, leg’	>	<i>i-d^ʕar-n</i>
<i>a-fullus</i>	‘rooster, chicken’	>	<i>i-fullus-n</i>
<i>a-funas</i>	‘bull’	>	<i>i-funas-n</i>
<i>a-mkar</i>	‘noble man’	>	<i>i-mkar-n</i>
<i>a-nugud^ʕ</i>	‘lamb’	>	<i>i-nugud^ʕ-n</i>
<i>a-tbir</i>	‘pidgeon’	>	<i>i-tbir-n</i>
<i>ta-brat-t</i>	‘letter’	>	<i>ti-brat-in</i>
<i>ta-fr^ʕr^ʕan-t</i>	‘oven’	>	<i>ti-fr^ʕr^ʕan-in</i>
<i>ta-matag-t</i>	‘pillar’	>	<i>ti-matag-in</i>
<i>ta-wtm-t</i>	‘female’	>	<i>ti-wtm-in</i> ⁶⁴

Some words retain their initial vowel in the plural and express plurality by suffixation only, as shown below:

(3.12) Pl. 1 → suffixation only (M:-n; F:-in)

<i>ajjur</i>	‘month, moon’	>	<i>ajjur-n</i>
<i>tallun-t</i>	‘small drum’	>	<i>tallun-in</i>

⁶⁴ This is the standard plural for ‘women’ in Ayt Atta, whose morphological singular counterpart is *tamt^ʕt^ʕut*.

uraw ‘handful’ > *uraw-n*

Given the constancy of the initial vowel, this is analysed as belonging to the root (i.e. it is not a prefix; cf. §3.1.2.2).

Plural 2 is the *internal* plural found in other branches of Afroasiatic, as discussed in Greenberg (1955). This type is similar to the *broken plurals* of Semitic languages, in that it shows vocalic modification of the stem: this targets the last-filled nucleus and consists in the replacement of some vowel in the singular with *a* in the plural. As usual, plurality is also expressed by prefixation:

(3.13) Plural 2 → internal: prefixation (M: *i*..., F: *ti*...) + vocalic ablaut (*u* > *a* / *i* > *a*) before a final consonant:

<i>a-bluḥ</i>	‘green dates’	>	<i>i-blaḥ</i>
<i>a-gdʰidʰ</i>	‘bird’	>	<i>i-gdʰadʰ</i>
<i>a-srdun</i>	‘mule’	>	<i>i-srdan</i>
<i>ta-lkiw-t</i>	‘window’	>	<i>ti-lkaw</i>

Plural 2 also includes Greenberg’s *dissimilatory* plurals (cf. Greenberg 1955: 199), where vocalic ablaut affects earlier elements of the word in addition to the last filled nucleus; in particular, Greenberg envisaged alternations between *a* in the singular and some other vowel in the plural, but it seems that all of the following examples belong here:⁶⁵

(3.14) Pl.2 → dissimilatory type

<i>aḥanu</i>	‘room’	>	<i>iḥuna</i>
<i>anu</i>	‘well, pit’	>	<i>una</i>

⁶⁵ It is word-final vowels which are often replaced, whereas the examples of dissimilatory type provided by Greenberg involve non-final vowels.

<i>agru</i>	‘frog’	>	<i>ig^wra</i>
<i>aɣjul</i>	‘donkey’	>	<i>ikujal</i>
<i>asklu</i>	‘tree’	>	<i>isk^wla</i>
<i>ta-mazir-t</i>	‘village’	>	<i>ti-mizar</i>
<i>ta-matar-t</i>	‘sign, identity’	>	<i>ti-mitar</i>

Plural 3 is characterised by circumfixation and some other phenomena, as shown below:

(3.15) Plural 3 → circumfixation (M: *i-...-an*) + *i*-internal deletion (only in closed syllables) + vowel-final deletion (wherever applicable):

<i>a-brid</i>	‘road’	>	<i>i-brd-an</i>
<i>a-duku</i>	‘shoe’	>	<i>i-duk-an</i>
<i>a-jllid</i>	‘king’	>	<i>i-jlld-an</i>
<i>a-z^ʕur</i>	‘root, vein’	>	<i>i-z^ʕur-an</i>
<i>ifilu</i>	‘thread’	>	<i>ifil-an</i>
<i>ifri</i>	‘cave’	>	<i>ifr-an</i>
<i>ifrfi</i>	‘waste’	>	<i>ifrf-an</i>
<i>igr</i>	‘field’	>	<i>igr-an</i>
<i>isli</i>	‘groom’	>	<i>isl-an</i>
<i>itri</i>	‘star’	>	<i>itr-an</i>
<i>izi</i>	‘fly’	>	<i>iz-an</i>
<i>izli</i>	‘song’	>	<i>izl-an</i>

A word retains its initial vowel and further undergoes a variation in pharyngealisation:

(3.16) Pl. 3 → suffixation and variation in pharyngealisation

<i>igdi</i>	‘dog’	>	<i>igd^ʕ-an</i>
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All these data show that this pattern is often found with words which have a vowel-final singular form, which is then dropped in the plural.

Furthermore, suffixation of *-an* also characterises another subtype which combines with consonant-length alternations. This is also attested in other varieties, both within Tamazight (e.g. Ayt Ndhir, cf. Penchoen 1973: 18-19) and elsewhere, such as in Tamashek Tuareg (Heath 2005: 204). An Ayt Atta example is provided below:

- (3.17) Pl. 3 → degemination, vowel-internal deletion, and suffixation (M:-*an*)
ad^hgg^wal ‘brother-in-law’ > *id^hul-an*

The type of plural just described seems to be found with masculine nouns only.

Plural 4 combines circumfixation and root ablaut to *a*. This is best seen in the following examples, which also show reduplication of the final consonant, the latter process being due to total regressive assimilation of a reconstructed consonant (Prasse 1974: 57):

- (3.18) Plural 4 → circumfixation (M: (*i*-)...-*n*) + vocalic ablaut (*u* > *a* / *i* > *a*) + doubling of final consonant
- | | | | |
|--------------|---------|---|-----------------|
| <i>a-fus</i> | ‘hand’ | > | <i>i-fass-n</i> |
| <i>a-fud</i> | ‘knee’ | > | <i>i-fadd-n</i> |
| <i>a-lim</i> | ‘straw’ | > | <i>i-lamm-n</i> |

Nouns with i-initial roots cannot show plurality in word-initial position:

(3.19) Pl. 4 → no prefixation

$iz^{\text{f}}id^{\text{f}}$ ‘cobra’ > $iz^{\text{f}}at^{\text{f}}t^{\text{f}}-n$ ⁶⁶

Other nouns which show neither prefixation nor consonant gemination are given below:

(3.20) Pl. 4 → suffixation (M: ...-*n*) + vocalic ablaut (*i* > *a*)

$inz^{\text{f}}id^{\text{f}}$ ‘hair’ > $inz^{\text{f}}ad^{\text{f}}-n$

This pattern has only been found with masculine nouns in Ayt Atta, which is in keeping with the situation attested in Siwi (cf. Souag 2010a: 78). However, use of this pattern with feminine nouns is not unreported in Berber: cf. *t-æ-lom-t* > *t-i-lamm-en* ‘bran’ in Tamashek Tuareg (Heath 2005: 181).

Plural 5 shows circumfixation, or, more frequently in Ayt Atta, suffixation, i.e. the initial vowel is retained (cf. Souag 2010a: 79). These two situations are exemplified in (3.21) and (3.22), respectively.

(3.21) Plural 5 → circumfixation (M: (*i*-)...-*awn*, F: *t(i)*-...-*awin*)

$amt^{\text{f}}t^{\text{f}}a$ ‘tear’ > $i-mt^{\text{f}}t^{\text{f}}awn$

(3.22) Pl. 5b → no prefix change, suffixation only (M:-*awn*; F:-*awin*) + vowel-final deletion (wherever applicable):

$i\text{f}f$ ‘head’ > $i\text{f}f-awn$

imi ‘mouth’ > $im-awn$

⁶⁶ Gemination of d^{f} regularly yields $t^{\text{f}}t^{\text{f}}$ across Berber.

<i>ism</i>	‘name’	>	<i>ism-awn</i>
<i>udm</i>	‘face’	>	<i>udm-awn</i>
<i>ul</i>	‘heart’	>	<i>ul-awn</i>

Plural 6 shows circumfixation or suffixation only (and vowel deletion, wherever applicable):

(3.23) Plural 6 → circumfixation (M: *i-...-iwn*, F: *t(i)-...-iwin*)

<i>a-wal</i>	‘word, language’	>	<i>i-wal-iwn</i>
<i>ta-mdla</i>	‘hill’	>	<i>ti-mdl-iwin</i>
<i>taḵawsa</i>	‘thing’	>	<i>tikawsiwin</i>

(3.24) Pl. 6 → suffixation

<i>agg^wra</i>	‘couscous-pot top’	>	<i>aggr-iwn</i>
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Plural 7 shows suffixation:

(3.25) Plural 7 → F: *t(i)-...-a*

<i>ta-mar-t</i>	‘beard’	>	<i>ti-mira</i>
<i>ta-daw-t</i>	‘back’ (body)	>	<i>ti-diwa</i>
<i>a-ggun</i>	‘pebble’	>	<i>i-ggun-a</i>

Plural 8 is not attested in Ayt Atta.

Plural 9 shows infixation of *-t-*:

(3.26) Plural 9 → infixed *-t-*

<i>ijma</i>	‘brother’	>	<i>ajtma</i>
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Plural 10 is not attested in Ayt Atta.

Plural 11 shows prefixation of *-id*.

(3.27) Plural 11 → prefixation of *id*

<i>bħllu</i>	‘grandfather’	>	<i>id-bħllu</i>
<i>mħllu</i>	‘grandmother’	>	<i>id-mħllu</i>
<i>mma</i>	‘mother’	>	<i>id-mma</i>

This plural-formation strategy is often adopted in the case of kinship terms. It is also a common strategy for plural formation used with loanwords (Kossmann 1997: 105).

Another plural word which does not seem to fit into the abovementioned types is provided below:

(3.28) Other plurals

<i>muʃʳ</i>	‘cat’	>	<i>imaʃʳʳun</i>
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In addition to these plural types, there are also nouns which form their plural by suppletion:

(3.29) Suppletive plurals

<i>arba</i>	‘boy’	>	<i>ifirran</i>
<i>bnadm</i>	‘person’	>	<i>mddn</i>
<i>tamtʳʳut</i>	‘woman’	>	<i>tiwtmir</i> ⁶⁷

And nouns which are inherently plural:

⁶⁷ The word *tiwtmir* is the (sound) plural of the noun *tawtmt* ‘female being’.

(3.30) Inherently-plural nouns

<i>aman</i>	‘water’
<i>ulli</i>	‘sheep’

Assigning a noun to a particular plural type is not always straightforward. For instance, the plural-2 word *anu* > *una* ‘well, pit’ belongs to plural type 3 in Tuareg, where it is realised as *ânu* / *ûnân*, from reconstructed **hanūh* / *hunhān* (Prasse 1974: 55).

Such incongruent comparative data is frequent, being often due to the idiosyncratic phonological behaviour of individual dialects, which may have lost one or more sounds retained elsewhere. For example, plural types 5 and 6 are characterised by suffixation of a marker including the labiovelar glide *w*. However, comparative investigation often allows for the reconstruction of an underlying *w* sound as belonging to the noun base; this is seen in the following pairs of examples, from Ayt Ndhir and Nafusi (Penchoen 1973: 16) and from Siwi and Figuig (Souag 2010a: 79), respectively:

(3.31)	<i>afər</i> ‘wing’	>	<i>afriwən</i> ‘wing.PL’	Ayt Ndhir
	<i>afriw</i> ‘wing’	>	<i>ifriwən</i> ‘wing.PL’	Nafusi

(3.32)	<i>aməṭṭa</i> ⁶⁸ ‘tear (eye)’	>	<i>iməṭṭawən</i> ‘tear.PL’	Siwi
	<i>aməṭṭaw</i> ‘tear (eye)’	>	<i>iməṭṭawən</i> ‘tear.PL’	Figuig

Ayt Atta shows the same *aməṭṭa* > *iməṭṭawən* data attested in Siwi.

⁶⁸That *w* is part of the root of this word is also testified by Ayt Atta data (Amaniss 2009: 716): *imeṭṭi* ‘tear’ shows verbal derivative *semiṭṭew* ‘to weep’.

§3.2.2 Gender

Two genders are grammaticalised in Berber, namely masculine and feminine. As discussed above, a diachronic perspective on noun prefixes reveals that these probably stem from gender- and number-inflected definite articles. Adopting this perspective may lead to regarding *w*- and *t*- as a masculine and a feminine marker, respectively. However, the absence of *w*- from absolute-state masculine nouns in Northern Berber seems to make this position untenable, since the *a*- ~ *w*- opposition can be simply accounted for as a contrast of state. This naturally leads to the position adopted in this work, which consists in recognising that masculine gender is unmarked in Ayt Atta.

The identification of feminine markers is rather uncontroversial: despite the existence of a few unmarked forms, almost the totality of feminine nouns is marked by the circumfix *t*-. . . .-*t* in the singular and by the sole prefix *t*- in the plural.

In addition to marked feminine nouns, there is also a group of inherently-feminine nouns, i.e. nouns lacking all explicit marking. This group mainly includes kinship terms, such as *illi* ‘daughter’, and *mma* ‘mother’.

§3.2.3 State

The category of state plays a central role in Berber nominal morphology. It is attested in most Berber dialects, although with some important formal variation; it is only absent from Eastern Berber dialects (Chaker 1995b: 39; Kossmann 2013a: 20; Souag 2010a: 126).

There is abundant literature on the topic, from Basset’s pioneering works (cf. 1932; 1952) to the previously-cited work by Vycichl (1957), including an encyclopaedic entry curated by Chaker (1988; Chaker 1995b) and more recent

contributions by Brugnatelli (1997) and Mettouchi (2006). The properties of state in Northern Tamazight have been analysed by Penchoen (cf. 1973: 19) and Abdel-Massih (cf. 1971: 119ff.).

§3.2.3.1 Morphosyntactic properties of AS and DS

As described in §3.1.2, the opposition of state is structured around two forms, referred to here as the *absolute state* and the *dependent state* (following Heath 2005: 147; see §3.2.3.2 below for a discussion on the terminology). These are essentially cover terms indicating a number of syntactic positions (cf. Heath 2005: 147). Bearing in mind that AAT's basic declarative constituent order is VSO (cf. §6.2.3), the distribution of absolute state and dependent state is discussed in what follows.

A noun is in the absolute state in a number of contexts. First, it is the form found in elicitation.

Second, the absolute state is used when a noun is the object of the clause:

- (3.33) *šmmr* *Ø-ataj*
 fill.IMP AS-tea
 'fill up the tea! (i.e. 'make the tea')

Third, the absolute state is found when a noun functions as the topic of the clause, i.e. in clause-initial position:

- (3.34) *t-a-ɛnʒaw-t* *t-rka*
 F-AS-spoon-F 3SG.F-be_hot.PFV
 'the spoon, it is hot'

Finally, the absolute state also marks the objects of prepositions, albeit in a very few cases only (cf. §6.1.1.2):

- (3.35) *j-safr* *ar* *t-a-mazir-t*
 3SG.M-travel.PFV up_to F-AS-village-F
 ‘He travelled up to the village’

On the other hand, the dependent state is used in a number of contexts too. First, it marks the subject of the clause in basic declarative clauses (i.e. VSO clauses):

- (3.36) *t-rka* *t-Ø-knɣaw-t*
 3SG.F-be_hot.PFV F-DS-spoon-F
 ‘the spoon is hot’

Second, the dependent state marks the object of most prepositions:

- (3.37) *a-kbalu* *n* *isli* *d* *t-Ø-sli-t*
 AS-spring of groom with F-DS-bride-F
 ‘the groom and the bride’s spring’

In (3.37), *isli* is an invariable noun, whereas the feminine form *tislit* appears in the dependent state (i.e. as *tislit*) due to the preceding preposition *d* ‘with, and’.

Third, it marks nouns which follow numerals:

- (3.38) *j-ili* *jan* *w-mkar* *lla-n* *kur-s*
 3SG.M-exist.AOR DET.M DS-old_man exist.PFV-3PL.M by-3SG
sin *ifirran*
 two.M children

‘[...] There is a man, he has two children’

Fourth, the dependent state marks nouns used after *wh*-particles, as in the following example:

- (3.39) *matta w-ḥanu ɛf t-sawal-t?*
 Q DS-room over 2SG-talk.IPFV-2SG
 ‘Which room are you talking about?’

In (3.39), the use of the *wh*-particle *matta* requires the noun which follows to be in the dependent state.

The distribution of absolute state and dependent state indicates that the post-verbal subject is marked in the same way as the object of most prepositions and differently from the clause object and from the form found in elicitation: this yields a typologically-unusual system known as ‘marked nominatives’ (Dixon 1994: 64-65).

Marked nominatives are also found in other Afroasiatic languages, namely Cushitic, and some scholars suggest that this feature of Berber may be traced back to proto-Afroasiatic (Dixon 1994; Sasse 1984; Souag 2010b).

§3.2.3.2 *On the terminology adopted in this work*

There is considerable terminological variation concerning the distinction between absolute and dependent state in Berber. In French-language publications, these are usually known as *état libre* and *état d’annexion*, respectively. English-language publications refer to those two forms in different ways, including ‘normal state’ and ‘construct state’ (Penchoen 1973: 19), ‘free state’ and ‘annexed state’ (Kossmann 2013a: 20), and ‘absolute state’ and ‘bound state’ (Souag 2010a: 124).

Other accounts alternatively analyse these two noun forms as distinctions of *case* (cf. Aikhenvald 1995; Kossmann 2011: 34ff.; Prasse 1974: 11). Nevertheless, the term ‘state’ is generally favoured over ‘case’ due to the typologically-unusual properties displayed by the two forms (cf. Penchoen 1973: 19). As Creissels put it, “their distribution does not fit into any cross-linguistically common and consequently well-identified configuration, and this is probably the reason why many specialists of Berber languages are reluctant to recognize them as case” (Creissels 2009: 75).

If the status of the term ‘state’ is somehow shaky but may still be retained for this opposition, other terms found in the literature are arguably more problematic. A case in point is the expression ‘construct state’, which is found with a radically-different meaning in Semitic grammars. In a paper on the construct form in African languages, Creissels (2009: 75) makes reference to Penchoen’s use of the expression ‘construct state’ in Berber linguistics. Creissels warns against the misleading character of that terminological choice, pointing to the fact that the construct state of Semitic and the so-called construct state of Berber are fundamentally-different phenomena: the former is an instance of head-marking, referring to the form taken by a head-noun when immediately followed by a complement-noun (e.g. possessive construction in Arabic); on the other hand, the so-called Berber construct state is an instance of dependent-marking, as the above examples show.⁶⁹

The misleading character of the label motivates the rejection of the expression ‘construct state’ in the present dissertation. As mentioned above, this work refers to the distinction discussed here as one between *absolute state* and *dependent state*, respectively, following Heath (2005: 147).

⁶⁹ For further comments on how the dependent state in Berber is different from the one in Semitic, see Cohen (1988: 21) and Galand (1988: 229).

§3.3 Numerals

Numerals are treated as nominals in that they appear in constructions analogous to those involving nouns, notably possessive constructions. However, numeral phrases may differ from possessive phrases in some respects. In particular, three elements characterise Berber numeral phrases, although details concerning their realisation may differ even within one and the same dialect: a numeral, preposition *n*, and a noun.

Numerals from ‘one’ to ‘ten’ usually show number agreement across Berber: ‘one’ is followed by a singular noun, but ‘two’ to ‘ten’ require a plural one. This occurs in Ayt Atta too, as seen in (3.40):

- (3.40) *krad^ɛ-t t-Ø-mdl-iwin*
 three-F F-DS-hill-PL
 ‘three hills’

An exception to this rule is found in the ancient Eastern Berber commentary of the *Mudawwana* known as *Kitāb al Barbariyya*, where numerals from ‘one’ to ‘ten’ are followed by a noun in the singular and the noun lacks the vowel of state (Brugnatelli 2011: 36-37):

- (3.41) *tam yur*
 ‘eight months’

As the example shows, the numeral *tam* ‘eight’ is followed by a singular form of the noun meaning ‘month’ and the noun has no prefix (cf. Ayt Atta *ajjur* ‘moon, month’,

DS: *wjjur*): this construction is said to have “no known parallel in any other Berber language” (Brugnatelli 2011: 37).

In addition to being followed by plural noun forms, Ayt Atta numerals from ‘four’ to ‘ten’ (and, in fact, those above ‘ten’ too) are also followed by the preposition *n*. Furthermore, similarly to possessive noun phrases, a noun following Ayt Atta numerals appear in the dependent state, as seen in (3.40), above, and (3.42), below:

- (3.42) *stta n w-ajjur-n*
 six of DS-moon-PL
 ‘six months’

Some other dialects are known to omit the preposition in these numeral phrases; two examples are found in the above-mentioned data from ancient Eastern Berber and in the Ighchan Tashelhiyt variety (Galand 1988: 219).

As for numerals above ‘ten’, most Berber varieties require the following noun to appear in the singular form; this can be seen in the following example from Ayt Izdeg (Mercier 2013: 18-19), a variety spoken in the Moroccan south-east:

- (3.43) *addag kken ^ʔašr iyam ġed ħamst^ʔašr ium ...*
 ‘After ten or fifteen days [...]’

This data shows both the plural and singular forms of the word *ium* ‘day’ (plural: *iyam*), used with ^ʔ*ašr* ‘ten’ and *ħamst^ʔašr* ‘fifteen’, respectively.

Ayt Atta behaves alike: numerals above ‘ten’ are followed by singular nouns, as seen in (3.44):

- (3.44) *mafi rbɣtɣaf tnɣaf n t-Ø-brʰum-t*
 NEG fourteen twelve of F-DS-loaf-F
ajd = di n-usj
 REL = VNT 1PL-take.PFV
 ‘It was not fourteen, it was twelve loafs that we brought’

As the example shows, it is the singular form of *takrʰumt* ‘loaf’ (plural: *tikrʰumin*) to be used, when it is preceded by a numeral such as *tnɣaf* ‘twelve’.

However, number agreement for numerals above ‘ten’ is not unreported, as some Algerian and Libyan dialects have number agreement for such higher numerals too (Galand 1988: 231).^{70 71} Recent work on a centuries-old Eastern Berber text has confirmed the presence of plural agreement with numerals above ‘ten’ in that variety, as the following examples show (Brugnatelli 2011: 38):

- (3.45) *arbeein n yedrimen* = ‘*arbaʿūna dirhaman* ‘40 dirhams’
sebein n takbirat ‘70 takbirs’
sent en tmaɖ en yedrimen ‘200 dirhams’
ifeɖ en wulli = ‘*alfu ġanamin* ‘1000 sheep’

In all of these examples, high numerals (i.e. above ten) are followed by the preposition *n* and a noun in the plural (e.g. *yedrimen*).

Aside from number agreement, Berber dialects also differ with regard to gender agreement between the quantified noun and the numeral. For example, numeral ‘one’ is the only form which can be inflected by gender in Siwi. Ayt Atta shows gender

⁷⁰ This observation motivated Galand’s classification of Berber dialects into two groups, depending on the behaviour of numerals.

⁷¹ This is reportedly attested in southern Tamazight as well, notably in the variety spoken by the Ayt Taghbalte (SIou, p.c.).

agreement in numerals for ‘one’, ‘two’, and ‘three’, whose forms are *jan* (m.) / *jat* (f.), *sin* (m.) / *snat* (f.), and *krad^s* (m.) / *krad^t* (f.), respectively.

Berber dialects have heavily borrowed numerals from Arabic, whereas only a few low numerals of Berber origin survive in most dialects. Kabyle and Siwi are among those dialects which have preserved numerals ‘one’ and ‘two’ only (Durand 1998: 111; Souag 2010a). Other dialects, including Tamazight (and AAT makes no exception), have preserved cardinals ‘one’, ‘two’, and ‘three’ (Durand 1998: 111).

There are however more conservative examples: Tashelhiyt is the only Moroccan dialect which has retained the original Berber numerals from ‘one’ to ‘ten’. Outside Morocco, Tuareg and Wargli (Algeria) are among the few dialects which behave alike (Durand 1998: 112; Penchoen 1973). The prospect of the original series is given in (3.46), below (adapted from Durand 1998: 112):

(3.46) Numerals from 1 to 10 in some Berber varieties (and in English)

English		Tashelhiyt		Wargli		Tuareg	
one	six	<i>yan</i>	<i>sḍis</i>	<i>iggən</i>	<i>səzz</i>	<i>iyän</i>	<i>səḍis</i>
two	seven	<i>sin</i>	<i>Sa</i>	<i>sən</i>	<i>sa</i>	<i>əssin</i>	<i>əssa</i>
three	eight	<i>krad</i>	<i>tam</i>	<i>šareḍ</i>	<i>tam</i>	<i>käraḍ</i>	<i>əttām</i>
four	nine	<i>Kuz</i>	<i>Tza</i>	<i>əkk^wəz</i>	<i>təşş</i>	<i>okkoz</i>	<i>təzža</i>
five	ten	<i>sMus</i>	<i>mraw</i>	<i>səmməs</i>	<i>mraw</i>	<i>səmmus</i>	<i>māraw</i>

Ayt Lfrsi Tamazight has retained the first three numerals only. It is interesting to observe that this variety possesses two different forms for numeral ‘one’, whereas many other Berber dialects usually display only either form. These two words are both inflected by gender and have different functions: *jan* (m.) and *jat* (f.) are used as indefinite articles and in counting, whereas *jiwn* (m.) and *jiwt* (f.) are used with when one and only one specific object is referred to.

The following list provides the numerals from 1 to 20 in Ayt Lfrsi Tamazight:

(3.47) Numerals 1-20 in Ayt Lfrsi Tamazight

1	2	3	4	5
<i>jan / jat</i>	<i>sin / snat</i>	<i>kradʔ / kradʔt</i>	<i>rbʔa</i>	<i>χmsa</i>
6	7	8	9	10
<i>stta</i>	<i>sbʔa</i>	<i>tmnʔa</i>	<i>tsʔud</i>	<i>ʔfra</i>
11	12	13	14	15
<i>lʔdʔaf</i>	<i>tnʔaf</i>	<i>tlʔaf</i>	<i>rbʔtʔaf</i>	<i>χmstʔaf</i>
16	17	18	19	20
<i>sttʔaf</i>	<i>sbʔtʔaf</i>	<i>tmntʔaf</i>	<i>tsʔtʔaf</i>	<i>ʔfrin</i>

Incidentally, these data are also interesting as they show a characteristic feature of Berber phonology, namely the tendency to drop unstressed vowels (cf. their Classical Arabic counterparts: أربعة (*ʔarbaʔa*) ‘four’, خمسة (*χamsa*) ‘five’, ستة (*sitta*) ‘six’, سبعة (*sabʔa*) ‘seven’, etc...).

Chapter 4

Pronominal morphology

There exist several sets of personal pronouns in Berber, all of them standing in complementary distribution to each other (i.e. each set is used in a specific context). This chapter introduces the AAT personal pronouns first (§4.1); after having discussed the pronominal system proper, it moves on to a description of demonstratives (§4.2), presentatives (§4.3), and directional particles (§4.4).

§4.1 Personal pronouns

The pronominal morphology of Berber languages distinguishes the categories of person, number, and gender. Both independent pronouns and bound pronominal markers exist.

§4.1.1 Independent personal pronouns

Ayt Atta Tamazight behaves like most Berber languages in this respect. What follows is the set of independent pronouns attested in this dialect:

(4.1) Independent personal pronouns

	SG	PL
1M	<i>nkk / nkkin</i>	<i>nkk^wni</i>
1F	<i>nkk / nkkin</i>	<i>nkk^wni</i>
2M	<i>kjj / kjjin</i>	<i>k^wnni</i>
2F	<i>kmm / kmmi</i>	<i>k^wnnimti</i>
3M	<i>ntta</i>	<i>nitni</i>
3F	<i>nttat</i>	<i>nitnti</i>

The alternative longer forms given for 1SG, 2SG.M, and 2SG.F are attested in other varieties too and have been referred to as *emphatic* by Durand (1998: 66). The functional difference between the members of each pair should be better determined, although it might be the case that it is rather the short forms which should be called *emphatic* instead, since they are used contrastively in order to unambiguously select a particular speech participant.⁷² The longer forms seem to be the default form in discourse, even though, considering that the language allows pronoun dropping, it may be argued that the longer forms are also marked, since unmarked constructions would simply drop the pronoun.

§4.1.2 Bound personal pronouns

In addition to these independent pronouns, there are two further sets of pronominal markers, namely bound pronominal markers and subject-agreement markers.

The sets of bound pronominal markers are formally similar to one another and can arguably be traced back to a common set (Durand 1998: 67). On the other hand,

⁷² The opposite situation seems to obtain in Tamashek, where it is the long forms which add “identificational emphasis” (Heath 2005: 238).

the set of subject-agreement markers differ considerably, showing a remarkable similarity with the agreement markers of Semitic instead. All of these pronominal markers may be grouped as follows:

- 1 object of prepositions
- 2a possessives used with kinship terms
- 2b possessives used with all other nouns
- 3a direct object
- 3b indirect object
- 4 subject-agreement markers

The formal properties of each set of bound pronominals and subject-agreement markers are analysed in what follows.

§4.1.2.1 Objects of prepositions

The objects of prepositions show some variation with plural referents. This mainly depends on whether a preposition is consonant-final or vowel-final. The table below lists all of the pronominal forms found with prepositions. Whenever a slash sign is present, the forms to its left are used with consonant-final prepositions and the ones to its right with vowel-final prepositions; a tilde sign shows that variation for the object marker used with one and the same preposition has been found:⁷³

⁷³ The alternation *un* / *wn* (as well as *unt* / *wn̄t*) is an instance of the confusion between *u* and *w* discussed in chapter 2. The form with the vowel *u* differs from the one with the semivowel *w* in terms of stress (the former is stressed, the latter is not). Subsuming this alternation under one single form would miss this important observation.

(4.2) Pronominal objects of prepositions

	SG	PL
1M	<i>i</i>	<i>nɛ / ɛ</i>
1F	<i>i</i>	<i>nɛ / ɛ</i>
2M	<i>k</i>	<i>nun ~ un / wn</i>
2F	<i>m</i>	<i>nunt ~ unt / wnt</i>
3M	<i>s</i>	<i>sn</i>
3F	<i>s</i>	<i>snt</i>

What follows provides examples of a consonant-final preposition and a vowel-final one:

(4.3) Paradigm of *kur* ‘by, at’

	SG	PL
1M	<i>kur-i</i>	<i>kur-nɛ</i>
1F	<i>kur-i</i>	<i>kur-nɛ</i>
2M	<i>kur-k</i>	<i>kur-un ~ kur-nun</i>
2F	<i>kur-m</i>	<i>kur-unt ~ kur-nunt</i>
3M	<i>kur-s</i>	<i>kur-sn</i>
3F	<i>kur-s</i>	<i>kur-snt</i>

(4.4) Paradigm of *data* ‘before, ahead of’

	SG	PL
1M	<i>dat-i</i>	<i>data-ɛ</i>
1F	<i>dat-i</i>	<i>data-ɛ</i>
2M	<i>data-k</i>	<i>data-wn</i>
2F	<i>data-m</i>	<i>data-wnt</i>
3M	<i>data-s</i>	<i>data-sn</i>
3F	<i>data-s</i>	<i>data-snt</i>

Notice that the preposition in (4.4) drops its final vowel in the first person singular. An alternative analysis to the one suggested in the table would consist in claiming that this preposition too is consonant-final: this would have the advantage of underscoring the formal identity between the preposition's use with nouns and its use with pronouns (c.f. *dat wgadir* 'in front of the wall').

However, the latter analysis would require postulating the existence of two different sets of preposition objects, i.e. (*kur*)-s and (*dat*)-as, respectively.⁷⁴ The analysis put forward here opts for the existence of one set of preposition objects, as shown in the tables above.⁷⁵ This agrees with similar analyses proposed in the literature, such as the one found in Heath (2005: 287-88).

§4.1.2.2 Possessive pronouns

The list of possessive suffixes used with kinship terms is first provided:⁷⁶

(4.5) Possessives used with kinship terms

	SG	PL
1M	<i>Ø ~ inw</i>	<i>nnk</i>
1F	<i>Ø ~ inw</i>	<i>nnk</i>
2M	<i>nnk</i>	<i>nnun</i>
2F	<i>nnm</i>	<i>nnunt</i>
3M	<i>nns</i>	<i>nnsn</i>
3F	<i>nns</i>	<i>nnsnt</i>

⁷⁴ Incidentally, the second set of preposition objects would be identical to the set of indirect object clitics, given further below.

⁷⁵ This limits the observed variation to the 1PL and 2PL forms seen in (4.2), above.

⁷⁶ For dialectal variation within northern Tamazight, cf. Durand (1998: 68).

As for non-kinship terms, possessive suffixes are essentially the same, the only difference is found in the first singular possessive pronoun, which is not zero-marked:

(4.6) Possessives used with other nouns

	SG	PL
1M	<i>inw ~ nw</i>	<i>nnk</i>
1F	<i>inw ~ nw</i>	<i>nnk</i>
2M	<i>nnk</i>	<i>nnun</i>
2F	<i>nnm</i>	<i>nnunt</i>
3M	<i>nns</i>	<i>nnsn</i>
3F	<i>nns</i>	<i>nnsnt</i>

As seen above, the first person singular has two allomorphs, namely *inw* and *nw*, depending on whether it follows a consonant-final or a vowel-final word, respectively.

§4.1.2.3 *Direct object and indirect object clitics*

The following two sets of markers are clitics rather than affixes, the reason being that they can appear in either post-verbal or pre-verbal position: they are used in pre-verbal position when any negative, interrogative, relativizing, or TAM particle appears in the clause:⁷⁷ any such particle occurs clause-initially and may then be followed by one or more clitics and the verb, in this order.⁷⁸ When both the direct

⁷⁷ In this work, the label TAM will be used when referring to the semantic load of verbal morpho-syntax, when no further specification of its temporal, aspectual, or modal nature is intended.

⁷⁸ Directional particles are also moved to preverbal position under the same syntactic context (see below), and would be placed after the clitics, in the event they are present.

object and the indirect object are present, the latter precedes the former. The clitics appear post-verbally in all other contexts.

(4.7) Direct object clitics

	SG	PL
1M	<i>i</i>	<i>aɛ</i>
1F	<i>i</i>	<i>aɛ</i>
2M	<i>k</i>	<i>k^wn</i>
2F	<i>km</i>	<i>k^wnt</i>
3M	<i>t</i>	<i>tn</i>
3F	<i>ttit / tt</i>	<i>tnt</i>

(4.8) Indirect object clitics

	SG	PL
1M	<i>i</i>	<i>aɛ</i>
1F	<i>i</i>	<i>aɛ</i>
2M	<i>ak</i>	<i>awn</i>
2F	<i>am</i>	<i>awnt</i>
3M	<i>as</i>	<i>asn</i>
3F	<i>as</i>	<i>asnt</i>

In this dissertation, direct object clitics and indirect object clitics have been glossed ACC ('accusative') and DAT ('dative'), respectively. This follows Kossmann (2011).

§4.1.2.4 Subject-agreement markers

There exists one further set of bound markers, namely those having subject-agreement function. These pronominal markers cannot be traced back to the common set given above but resemble the corresponding system reconstructed for proto-Afroasiatic (Cohen 1988a: 24):

(4.9) Subject-agreement markers

	SG	PL
1M	<i>-k</i>	<i>n-</i>
1F	<i>-k</i>	<i>n-</i>
2M	<i>t-....-t</i>	<i>t-....-m</i>
2F	<i>t-....-t</i>	<i>t-....-mt</i>
3M	<i>j-</i>	<i>-n</i>
3F	<i>t-</i>	<i>-nt</i>

A note is necessary in order to justify indicating *j-* as the third person masculine singular marker. The morpheme has actually two allomorphs, being phonetically realised as [i] with consonant-initial stems and as [j] with vowel-initial ones. This means that both *j-* and *i-* could in principle be chosen as the underlying form of this agreement marker. However, the alternation *j ~ i* is only available to a segment having an underlying semivowel (i.e. /j/), as seen in §2.5.1. The choice of *j-* as the 3SG.M subject marker is then consistent with that analysis.

§4.2 *Demonstratives*

Ayt Atta Tamazight has an extremely complex system of demonstrative pronouns and particles. The system includes items having deictic and/or anaphoric value, while possessing forms which seem to pertain to the temporal/aspectual domain. This section only provides a basic illustration of the demonstrative system, since its thorough investigation is beyond the scope of this work and is deferred to some future work.

Following Diessel (1999), demonstratives are divided into adnominal, pronominal, and locative items. Before moving to the illustration of AAT demonstratives, it is

important to mention some pronominal bases (henceforth *set 1*) which participate in the formation of several demonstrative forms. Such pronominal bases are listed in (4.10):

(4.10) Set 1 – pronominal bases

<i>wa</i> (SG.M)	<i>wi</i> (PL.M)
<i>ta</i> (SG.F)	<i>ti</i> (PL.F)

These are here analysed as standalone words having purely-pronominal meaning, as they only provide gender and number information.⁷⁹ This is equivalent to saying that they are deictically unmarked.⁸⁰ Two examples of these pronominal bases are given below:⁸¹

- (4.11) *ard t-iri-t a wa*
 CONJ 2SG-want.AOR-2SG VOC SG.M.PRO
 ‘Any time you like!’ (lit.: ‘Till you want, oh you!’)

- (4.12) *ard t-iri-m a wi*
 CONJ 2PL-want.AOR-2PL.M VOC PL.M.PRO
 ‘Any time you (PL) like!’

In both sentences, the pronoun *wa* cannot plausibly convey any deictic meaning, as its referent and the interlocutor coincide. Furthermore, they may be used with interlocutors standing at a great distance from the speaker, which further confirms their non-deictic interpretation.

⁷⁹ These forms support the idea that the noun prefixes discussed in §3.1.2.1 stem from earlier definite articles.

⁸⁰ For a similar analysis concerning Tamashek, cf. Heath (2005: 238ff.).

⁸¹ Feminine forms *ta* and *ti* are attested too, and in identical contexts.

More evidence comes from phone messaging, as the following (typical) opening line shows:

- (4.13) *azul a wa*
 hi VOC M.SG.PRO
 ‘Hi you!’

Once again, the nature of the interaction seems to exclude any deictic interpretation of *wa*, whereas corroborating a pronominal one.

Finally, there is also a pronominal form which is used in possessive constructions. This only shows gender agreement, the form being *wi* with masculine referents and *ti* with feminine ones. An example is provided below:

- (4.14) *idd wi-nnk mid wi-nw*
 Q PRO-2SG.M.POSS or PRO-1SG.POSS
 ‘Is it yours or mine?’

This form might also intervene in the formation of some demonstrative forms but this will not be dealt with in this work.

§4.2.1 Demonstrative particles and pronouns

The pronominal bases described above are used in combination with a number of demonstrative particles. The first set of demonstrative particles to be introduced (henceforth *set A*) may be employed with both adnominal and locative function: they co-occur with nouns and set-1 pronominal bases, in addition to intervening in the formation of locative adverbs; furthermore, they are also employed in focus

constructions after relativiser *aj* (cf. §6.3.2). Set-A demonstrative particles are provided in (4.15):

- (4.15) Set A – demonstrative particles⁸²
- | | |
|---------------------------|--------------------------|
| <i>i(d)</i> ~ <i>a(d)</i> | proximal value |
| <i>nnak</i> | medial value / anaphoric |
| <i>in</i> | distal value |

The proximal forms are *i* after nouns and *a* after pronominal bases and focus marker *aj*. Both *i* and *a* can either be used alone or in combination with the proximal form given in set B: in the latter case, they are realised as *id* and *ad*, respectively (see below).

As far as their semantics is concerned, set-A particles express three different spatial values, namely *proximal* (near the speaker), *medial* (near the hearer), and *distal* (away from both the hearer and the speaker). Furthermore, the medial particle *nnak* is also used as an anaphoric marker, in order to track referents in discourse.⁸³

The combination of pronominal bases and set-A demonstrative particles yields the pronominal demonstratives listed in (4.16), below (henceforth *set 2*). These pronominal demonstratives can head a noun phrase, as opposed to set-A particles which must be attached to a preceding head instead.

⁸² The proximal and the distal forms are likely to be related to the directional discussed in §4.4, as their formal and semantic similarities suggest.

⁸³ This system is similar to the one found in Hausa (another Afroasiatic language), where there is also a three-way demonstrative system, and where it is precisely the medial form which can also have a discourse function.

(4.16) Set 2 – pronominal demonstratives

SG.M	PL.M	SG.F	PL.F	
<i>wa</i>	<i>wi</i>	<i>ta</i>	<i>ti</i>	proximal ⁸⁴
<i>wannaɁ</i>	<i>winnaɁ</i>	<i>tannaɁ</i>	<i>tinnaɁ</i>	medial / anaphoric
<i>wan</i>	<i>win</i>	<i>tan</i>	<i>tin</i>	distal ⁸⁵

As mentioned above, there exists one more set of demonstrative particles (henceforth *set B*):

(4.17) Set B –demonstrative particles

*dɛ*⁸⁶
*ddaɁ*⁸⁷
lɛ

Although their semantic values need to be better specified, it seems that the meaning of *dɛ* is not merely spatial, but it might be related to present-time reference or evidentiality instead, whereas the particles *ddaɁ* and *lɛ* are likely to pertain to the temporal/aspectual domain.⁸⁸

⁸⁴ The proximal series appears to be formally identical to the pronominal bases laid out in (4.10). However, proximal demonstrative *wa* is analysed as having an underlying final *d* instead (i.e. **wad*).

⁸⁵ Set-2's distal series does not seem to be attested in Ayt Taghbalte (south of Ayt Lfrsi), where set-3's counterpart is reportedly used instead (SIOu, p.c.).

⁸⁶ Some Ayt Lfrsi speakers devoice the whole particle, which is then realised as [-tɣ]/[-təɣ]. This is what one of the author's consultants does. Incidentally, an elderly member of the same family does the same, which may point to dialectal divisions along family lines. Other realisations are found in the region: an Ayt Izdeg text shows the form *ddeɣ*, (i.e. *ddɣ*), as found in *bu siyar addeɣ* 'this sieve' (Mercier 2013: 16). An identical realisation found in Ayt Taghbalte points to final devoicing, since connected speech has final *Ɂ* instead (SIOu, p.c.).

⁸⁷ The particle *ddaɁ* is also used in declarative clauses as a temporal adverb meaning 'when', with future-time reference: this points to this particle being used with either an immediate past or an immediate future reference, in a similar fashion to French "tout à l'heure."

⁸⁸ Tamashek's cognate particle *dæɣ* has anaphoric value and participates in the formation of a number of demonstrative forms (Heath 2005: 240-241).

Both *ddaḵ* and *llik* are used in combination with the pronominal bases listed in (4.10). The combinatorial properties of *dḵ* diverge, since it is not directly suffixed onto those pronominal bases but follows set-2 proximal and distal pronominal demonstratives instead. This originates a number of pronominal demonstratives (henceforth *set 3*): these are given in (4.18) along with a tentative interpretation of their semantic values:

(4.18) Set 3 – pronominal demonstratives

SG.M	SG.F	PL.M	PL.F	
<i>waddḵ</i>	<i>taddḵ</i>	<i>widdḵ</i>	<i>tiddḵ</i>	proximal
<i>wandḵ</i>	<i>tandḵ</i>	<i>windḵ</i>	<i>tindḵ</i>	distal
<i>waddaḵ</i>	<i>taddaḵ</i>	<i>widdaḵ</i>	<i>tiddaḵ</i>	temporal/aspectual
<i>wallik</i>	<i>tallik</i>	<i>willik</i>	<i>tillik</i>	temporal/aspectual

The comparison of forms *waddḵ* and *wandḵ* indicates that the underlying form of set-A's proximal demonstrative is *wad*. Therefore, despite the fact that *ad* is no longer productive with adnominal function in Ayt Atta (since *i* and its alternative forms *iddḵ* and *dḵ* are found instead), this particle is still found in fossilised forms such as *waddḵ*.⁸⁹

Drawing a clear distinction between pronouns *wa* and *waddḵ* is not straightforward. In the following example, each pronoun has indefinite reference, since the speaker did not mean to point to any specific person:

⁸⁹ The existence of demonstrative particle *ad* is well known across Berber, as Ayt Ndhir data shows: *argaz ad* 'this man' (Penchoen 1973: 62). A neighbouring dialect such as Ayt Izdeg lends further support to the analysis put forward in this section: the demonstrative form *addḵ* is attested in this variety, as seen in the noun phrase *bu siyar addeḵ* 'this sieve' (the example has anaphoric value: from Mercier 2013: 16-17).

- (4.19) *j-nnaκ* *wad-dκ* *d* *wa*
 3SG.M-fight.PFV DEM.SG.M-PROX COM DEM.M.S
 ‘This one fought this one’

As for the other two particles of set B, they seem to have some temporal and/or aspectual meaning. In particular, *ddaκ* indicates some relevance of a situation to the time of speech, whereas *lilκ* might simply rule out that any relevance exists by locating the referent in the past, or express the notion of completion of a situation. This means that aspectual categories such as perfect and perfective might be relevant here; the issue will be investigated in future work. More on these particles is found in the section on temporal clauses (§6.4.2.1.1).

There exists another item which can combine with the demonstrative particles listed above: this is relativiser *aj*. This is widely used in focus constructions (cf. §6.3.2): a noun in focus is followed by particle *aj* which is in turn followed by the demonstrative particles discussed in this section.

Interestingly, these constructions have been lexicalised, since the resulting expressions behave like nouns as they undergo state alternations⁹⁰ and may appear as heads of possessive phrases (cf. §3.2.3). A similar phenomenon occurs in other Berber dialects too, e.g. in Figuig (Kossmann 1997). A list of these demonstrative pronouns is given in (4.20):

- (4.20) Demonstrative pronouns, set 3
 ajiddκ / *ajaddκ*
 ajindκ
 ajinnaκ (dependent state: *wjinnaκ*)

⁹⁰ This applies to three of the words listed here. Further data concerning the other two words need to be collected.

ajddak (dependent state: *wjddak*)

*ajllik*⁹¹ (dependent state: *wjnnak*)

These forms are widely used in narrative texts. Two examples are provided below:

- (4.21) *allig* *χatr-n* *wj-nnaκ* *n* *ifirran* *ja-n*
TAM grow_up.PFV-3PL.M DS.PRO-MED of boys one-M
j-mmuʃdr *ʃwi* *ja-n* *j-ʃwa*
3SG.M-be_crazy.PFV little one-M 3SG.M-be_smart.PFV
‘Until those two children grew up, one was a bit crazy, one was smart’
- (4.22) *ma=mi* *j-badʃ* *wj-nnaκ*
Q=DAT 3SG.M-serve.PFV DS.PRO-MED
‘What is that for?’

Both sentences show the dependent-state form of medial demonstrative pronoun *ajnnak*.

§4.2.2 Demonstrative adverbs

In addition to adnominal and pronominal demonstratives, AAT also displays a large set of items having locative value, i.e. demonstrative adverbs. These are formed via the combination of an initial element *d* and the demonstrative particles seen above. A list of locative adverbs is provided below:

⁹¹ According to some consultants, the final *ɤ* can be dropped (at least in *ajinnaɤ* and *ajllis*) without altering the resulting meaning. Interestingly, *ɤ*-dropping is said to be a feature present in the speech of elderly people, rather than in the parlance of young speakers. This actually suggests reversing the perspective: the phenomenon may well be one of generalised insertion of *ɤ* at the end of these words: the forms without that sound would then be older than those with the sound.

(4.23) Set 6 – locative demonstratives

<i>da</i>	proximal ('here', i.e. near the speaker)
<i>daddɛ</i>	proximal ('here', i.e. near the speaker)
<i>dinnaɛ</i>	medial ('there, i.e. your way')
<i>din</i>	distal ('there', i.e. away from both speaker and hearer)
<i>dindɛ</i>	distal ('there', i.e. away from both speaker and hearer)
<i>diddaɛ</i>	temporal ('there', i.e. recent-past reference (?))
<i>dillik</i>	temporal ('there', i.e. remote-past reference (?))

These adverbs can also combine with presentatives in order to indicate a referent's exact location (cf. §4.3).

§4.3 Presentatives

In addition to the demonstratives discussed above, there also exists a set of *presentatives*: these are words used for introducing (or pointing to) an object or person, similarly to expressions such as English 'here is X / there is X' or French 'voici X / voilà X'. They are illustrated here because of their interaction with the pronominal system and their deictic nature. A partial list of presentatives is given below:

(4.24) proximal value

<i>fian</i>	'Here is ...'	(gender-neutral)
<i>fiatin</i>	'Here he/it is ...'	(pronominal, male referent)
<i>fiatnnit</i>	'Here she/it is ...'	(pronominal, female referent)

(4.25) distal value

<i>fawn</i>	'There is ...'	(gender-neutral)
<i>fawtin</i>	'There he/it is ...'	(pronominal, male referent)
<i>fawtnnit</i>	'There she/it is ...'	(pronominal, female referent)

In the following examples, these particles are used for the presentation of newly-individuated referents:

(4.26) Examples of presentatives

ḥian muḥammad / ḥafidʿa ‘Here you see Mohammed (m.) / Ḥafida (f.)’
ḥawtnnit ‘There you see them’

The following example may introduce an event instead:

(4.27) *ḥian j-ra a j-tʃtʃ*
 PRES 3SG.M-want.PFV TAM 3SG.M-eat.AOR
 ‘(there you see him) He wants to eat’

The previous example also shows another important function of presentatives, namely the disambiguation of the aspectual context of an utterance. The following two sentences better show this:

(4.28) *ḥmad da j-rgg^{wl} ar taʃtfaʃt*
 Ahmed TAM 3SG.M-run.IPFV up_to AS.Tashtfasht
 ‘Ahmed, he is running/runs to Tashtfasht (mountain)’

(4.29) *ḥian ḥmad da j-rgg^{wl} ar taʃtfaʃt*
 PRES Ahmed TAM 3SG.M-run.IPFV up_to AS.Tashtfashte
 ‘there you see Ahmed, he is running/*runs to Tashtfasht’

The use of *ḥian* in (4.29) only allows for a progressive interpretation, whereas (4.28) allows for a habitual interpretation as well.

The gender-inflected presentative particles may also follow locative adverbs and the demonstrative pronouns discussed in §4.2, above: speakers make use of these when they intend to disambiguate among potential referents and indicate a particular place or object/individual in a more direct and explicit fashion. Particle *ħa* is often found with this function. This is shown below:

(4.30) *daddɤ* *ħatin*
 LOC.PRO PRES
 ‘right here’

(4.31) *wa* *ħa*
 SG.M.PRO PRES
 ‘This one here!’

This use of presentatives is reminiscent of such expressions as e.g. English ‘that one’ or French ‘celui-là’, at least after pronouns. After adverbs, they are best translated as e.g. English ‘right there’ or French ‘juste là-bas’.

One more particle is worth mentioning here, the particle *ħat*, which is ubiquitous in both narration and other speech genres. It seems that it cannot have deictic function but it has some discourse function instead.

§4.4 Directional particles

The use of directional particles is widespread in Berber, although they have left but sporadic traces in some dialects.⁹² Their form is *d* and *nn* in AAT, whereas cognate forms exist across Berber. In spite of the fact they are not pronouns, these

⁹² For example, they have a marginal role in the variety spoken in Siwa (Souag 2010: 366ff.).

directional particles are illustrated here because of their formal resemblance to the demonstrative particles participating in the formation of demonstrative pronouns (cf. §4.2): this may point to a common historical origin (Taine-Cheikh 2010b). Furthermore, they may be incorporated into some object clitics in AAT, which further justifies treating such particles in this section.

The basic function of *d* and *nn* consists in the indication of movement towards or away from the speaker, respectively. For this reason, Berber literature refers to them by names such as ‘centripetal’ and ‘centrifugal’ (Heath 2005; Souag 2010a) and ‘hither’ and ‘thither’ (Kossmann 2013a; Souag 2010a). Following Kossmann (2013a), particles *d* and *nn* are here indicated as the *ventive* (VNT) and *itive* (ITV) clitic, respectively. In spite of their seemingly-basic directional meaning, some alternative recent views may suggest new interpretations. This will be discussed further below.

Both clitics combine with verbs and often disambiguate the interpretation of a verbal form, as in the two examples which follow:

(4.32) *j-dda = d*

3SG.M-go.PFV = VNT

‘He is coming/he came’

(4.33) *j-dda = nn z^har-s imikr g j-id^h*

3SG.M-go.PFV = ITV by-3SG thief at DS-night

‘A thief went to her place at night’

The PFV stem *dda* means ‘come’ in (4.32), due to the presence of *d*, but it means ‘go’ in (4.33), due to the following particle *nn*. More examples are provided below:

- (4.34) *t-nna=k* *t-ddu=nn* *imki-ddk*
 3SG.F-say.PFV = 2SG.M.DAT 3SG.F-go.AOR = VNT like-PROX
 ‘She said to you, she goes away like this’

- (4.35) *mf t-urw-t* *t-a-rba-t*
 if 2SG.F-give_birth.PFV-2SG.F F-AS-child-F
t-s-iwj-t=aK=nn *t-a-busijar-t*
 2SG-CAUS-take.AOR-2SG = 1PL.DAT = ITV F-AS-sieve-F
i w-asif
 to DS-river
 ‘In case you will have given birth to a girl, place a sieve in the river’

As for their syntactic properties, these particles are clitics in AAT and are sometimes referred to as ‘satellites’, since they may either precede or follow the verb depending on whether a suitable host is present in clause-initial position, which would attract the clitic to a preverbal position. Suitable hosts include elements such as TAM particles, wh-words, the negator *ur*, and relativisers.

The syntactic properties of the clitics alongside the phonological structure of predicates play a role in determining the range of allomorphs displayed by the clitics. These are realised as *id* and *inn* in postverbal position, when they follow a dental-final verb form, whereas they are realised as *di* and *nni* in preverbal position, when followed by a consonant-initial verb form. A number of examples from AAT are provided below:

- (4.36) *ur=ta=di* *ddi-n*
 NEG = yet = VNT go.NPFV-3PL.M
 ‘They have not arrived yet’

- (4.37) *fiat ur kij-ɛ a = nni ddu-ɛ*
 PRES NEG can.NPFV-1SG TAM = ITV go.AOR-1SG
 ‘I cannot come (there)!’

- (4.38) *mantur aj = di t-aɣul-t?*
 Q REL = VNT 2SG-come_back.PFV-2SG
 ‘When did you come back?’ (lit.: ‘when is it that you came back?’)

- (4.39) *maj = di t-kki-t?*
 Q.REL = VNT 2SG-visit.PFV-2SG
 ‘Where have you been?’

The following example shows that *nn* appears preverbally due to the presence of TAM particle *allig* (4.40):

- (4.40) *allig = nn j-gula a-mazir allig*
 TAM = ITV 3SG.M-arrive.PFV AS-village TAM
han takat t t n iz iwiɣn t-gula t = id
 PRES Taghaɣt n Izewiyin 3SG.F-arrive.PFV 3SG.M.ACC = VNT
 ‘Until he arrived at the village, until there you have Taghaɣt n Izewiyin, she had arrived here (too)’

The example is worth commenting since it shows how these two particles can be used. The spatial referent is here the same (a village), but the perspective changes as the story unfolds. In the first clause,⁹³ *allig nn jgula amazir* ‘until he arrived at the village’, *nn* functions as a distancing particle: it may be argued that the verb expresses the notion of movement and the particle disambiguates as to the direction/location of it; this shows that the agent arrives at some remote village. This

⁹³ Whatever preceded this example is not relevant for the discussion of the point at hand.

part is followed by another clause, *allig ḥan takat^tt n izⁱiwijn tgula t id* ‘until there you have Taghaṭṭ n Izewiyin, she had arrived here (too)’, whose verb is only followed by an object clitic and particle *d*: this means that the person arrived at the village where Taghaṭṭ n Izewiyin had previously arrived. Interestingly, the use of *d* suggests that we are witnessing the event from a village perspective: the particle *nn* took us to the village, and we know the other character had arrived there too.⁹⁴

Another interesting feature can be observed in the morphology of directional clitics in AAT. At least from a synchronic point of view, there appears to be a phenomenon of incorporation of these clitics into third singular feminine direct object clitics, as seen below:

- (4.41) *allig = tddit* *n-usj* *n-zajd* *n-ddu*
 TAM = ACC.VNT.F 1PL-take.PFV 1PL-continue.AOR 1PL-go.AOR
 ‘Until we took it and kept on going’

- (4.42) *j-t^tt^tf* *tddit* *bba-nns*
 3SG.M-catch.PFV ACC.VNT.F father-3SG.POSS
j-rbba = ttit *kur-sn*
 3SG.M-tame.PFV = ACC.F by-3PL.M
 ‘His father had taken it, he had tamed it by them’

Both (4.41) and (4.42) show the word *tddit*, which combines the 3SG.F.ACC clitic *ttit* and the ventive clitic *d*. The hypothesis formulated here is that this form comes from **tətd*. The unattested form would have the frequent feminine object marker *tət*, a form which is found in Tamashek Tuareg (Heath 2005); if the form was indeed **tət*,

⁹⁴ These particles are clitics since they may either precede or follow the verb, and this is what this example also allows us to see: the lack of cliticisation in the second instance of the word *allig* is due to the use of the presentative *ḥan*, which intervenes between the TAM particle and the verb.

then the second *t* is likely to have assimilated to the following ventive clitic, a type of regressive assimilation which complies with the phonological rules of Ayt Atta. This would eventually yield the voiced dental geminate attested synchronically. As for the final *t* (or *it*), this was probably due to the suffixation of a feminine marker, mirroring the alternative feminine clitic *ttit*, possibly due to the need to further distinguish this form from the masculine object clitic.

Sentence (4.42) is worth analysing for it helps shed light on the function of *d*. The sentence is taken from a folktale about two brothers, and this particular passage is about their father, who had previously caught a gazelle and domesticated it. The 3SG.F.ACC clitic appears twice, once as *tddit* and once as *ttit*. The absence of the ventive clitic in the second form can be accounted for by considering the deictic centre adopted by the narrator, which arguably coincides with the place in which the story is located. The form *tddit* expresses the fact that the father had caught the gazelle and brought it to the deictic centre, hence the need for the ventive clitic. The second form does not imply any further movement, so *d* does not appear.

The sentence is also interesting since the verbs occurring with *d* are not motion verbs. Indeed, the illustration of the properties of clitics *d* and *nn* has so far mainly focused on clauses containing motion verbs. Assuming that *d* sets the final boundary to a centripetal path, this means that the particle will naturally occur with motion verbs. However, plenty of data seem to show that a different scenario is possible:

- (4.43) *j-lla=d* *g* *t-Ø-mazir-t*
 3SG.M-be.PFV = VNT in F-DS-village-F
 ‘He is (back) in the village’

The fact that stative verbs cannot occur with clitic *d* is reported in the literature (Guerssel 1986). However, data such as (4.43) show that stative verbs do occur with the particle: this means some other explanation must be sought in order to account for the facts observed.

Following Belkadi (forthcoming), it is hypothesised that the ventive clitic functions here as a marker of Associated Motion, a motion event which occurs either prior or subsequently to the event described by the main verb. The use of deictic directionals as markers of Associated Motion is a fairly common phenomenon in Berber and in other African languages. It usually occurs with verbs which describe events not involving or perceived as not involving motion (Belkadi forthcoming). In AAT, as in some other Berber varieties (e.g. Tamashek), the itive clitic *nn* too marks Associated Motion. It contrasts with the ventive clitic by marking an additional motion occurring away from the deictic centre. This opposition is illustrated by the following examples:

- (4.44) *kki-B=d* *tinkir*
 visit.PFV-1SG = VNT Tinghir
 ‘I was in Tinghir (and came back)’

- (4.45) *kki-B=nn* *tinkir*
 visit.PFV-1SG = ITV Tinghir
 ‘I was in Tinghir (and went away)’

In (4.44), the use of *d* is possible if and only if the speaker is not in the town of Tinghir at utterance time: in other words, the example could be translated as ‘I have been to Tinghir and I have come back’. On the other hand, (4.45) may be uttered by

someone who is in Tinghir at utterance time and refers to the fact he/she visited the same town before but then left.

Chapter 5

Verbal morphology

This chapter focuses on the formal properties of verbal categories in Ayt Atta Tamazight. An in-depth illustration of their semantic value will be provided in the second part of this work. The names of verbal categories are only anticipated in this chapter for the sake of clarity.

However, before detailing the verbal morphology of Tamazight, it is necessary to illustrate the concepts of *pattern* and *root*, which are familiar from the study of Semitic but play an important role in Berber as well.

§5.1 Pattern and Root

The occurrence of templatic morphology in both Arabic and Berber is one of the features underlying the classification of Semitic and Berber languages as part of the same language family, i.e. Afroasiatic (Cohen 1988a: 18).

In a templatic morphological system, lexical forms are construed on the basis of the combination of two parts: in Arabic for instance, a variable part known as *root* provides lexical information and consists of (usually) three consonants, whereas an invariable part known as *pattern* provides morphological information (Cantineau

1960).⁹⁵ These two parts do not follow one another (as is the case in concatenative morphology), but each of them occupies some non-adjacent positions within the set of slots which makes up a particular grammatical form. In other words, morphological information is not juxtaposed but is spread discontinuously across a word-form.

For example, the pattern $maC_1C_2uuC_3$ is one of the patterns for passive participles in Arabic. The three numbered consonants are three variables: any triconsonantal root can occupy those slots, but the resulting grammatical information expressed in this way will still be “passive participle”: e.g. *maktuub* ‘written’, *maqfiul* ‘locked, closed’, etc.

There exist a considerable number of patterns in Semitic languages (Cohen 1988a: 17). In Berber the situation is not as neat, this being due to the “massive injection of foreign vocabulary, which has affected the value of the patterns” (Cohen 1988a: 19).

The verbal forms of morphologically-templatic languages are susceptible to paradigm restructuring across the range of originally-available patterns and beyond that. This means that forms which originally belonged to a specific pattern may acquire a different morphological pattern due to a variety of factors such as phonological processes and analogical reinterpretation. Other patterns than those previously existed may have become available in a language (hence the use of the word ‘beyond’, above), in so doing setting it further apart from dialects not possessing that pattern.⁹⁶

⁹⁵ These are known in French scholarship as *schème* and *racine*, respectively.

⁹⁶ Souag (2010: 427) states that Siwi has borrowed several patterns from Arabic, which have become productive in Siwi.

The second member of lexical forms is the root, which assigns the idiosyncratic component of meaning: for example, in Arabic, the consonants (also known as *radicals*) *KTB* refer to the idea of writing, whereas the consonants *DRS* express the notion of studying. Out of each of these two roots stems a plethora of words, all of them related in meaning. The following table lists just a few words originated by these two roots (notice the gemination of some consonants, originating in derived forms):

(5.1) KTB	DRS
<i>kitaaba</i> ‘writing’	<i>diraasa</i> ‘the studying, lesson’
<i>maktaba</i> ‘library’	<i>madrasa</i> ‘school’
<i>kitaab</i> ‘book’	<i>dars</i> ‘lesson’
<i>kutub</i> ‘books’	<i>duruus</i> ‘lessons’
<i>kaatib</i> ‘writer’	<i>mudarris</i> ‘teacher’

As for Berber, there is no general agreement around the nature of the root, as decades of debate show (Basset 1952; Galand 1984; Prasse 1957). Many authors tried to investigate the root from a diachronic viewpoint, within the field of Afroasiatic studies. Their comparative agenda alongside the prestige and influence of Arabic have led to the interpretation of Berber data through the prism of the Arabic system. This has led to a skewed outcome, consisting in the recognition of a consonantal character of the root in Berber, a conclusion which is not always borne out from the available data:⁹⁷ for example, the Ayt Atta verbs *ak* ‘play’, *zⁱi* ‘tell someone off’, and *wsir* ‘to be old’ retain their vowels throughout their paradigms (cf.

⁹⁷ This position was firmly stated by André Basset, the father of modern Berber studies: “There is a fundamental opposition between vowels and consonants as far as roots and morphology are concerned. Vowels are never part of a root, which is the *pure realm of consonants*. On the other hand, consonants play a role both at the level of roots and at a morphological level” (Basset 1952: 12).

their respective stems: $ab^{AOR} / ttab^{IPFV} / ab^{PFV} - z^{fAOR} / ttz^{fIPFV} / z^{fPFV} - wsir^{AOR} / ttwsir^{IPFV} / wssir^{PFV}$). In fact, it seems to be possible to divide Berber roots into two groups, some of them purely consonantal and some of them consistently retaining the same one or two vowels throughout a paradigm.⁹⁸

In Arabic, triconsonantal roots drastically outnumber all other root types (Cohen 1988a: 18).⁹⁹ As for Berber, many roots also consist of three consonants, but the number of non-triconsonantal roots is far higher than in Semitic. The study of a Kabyle dialect has shown that triconsonantal roots represent 52% of all roots, but biconsonantal ones number around 35%, whereas much smaller is the presence of quadriconsonantal (7,5%) and monoconsonantal roots (4,8%) (Cohen 1988a: 19).

Having sketched the properties of both patterns and roots, it is now time to move to the illustration of the formal properties of AAT verbs.

§5.2 Verbal categories

What follows details the formal properties of the verb stems attested in Ayt Atta Tamazight.

§5.2.1 Imperative/Aorist stem

Two categories known as *Imperative* and *Aorist* are formed from the same stem, but have a different set of subject-agreement markers.

⁹⁸ It has been argued that those vowels which are synchronically ascribed to the root are the reflex of ancient back consonants, e.g. pharyngeals (cf. Cohen 1988: 19).

⁹⁹ Quadriconsonantal roots mainly derive from reduplication of biconsonantal roots (Cohen 1988: 18).

§5.2.1.1 Imperative

Some dictionaries of Berber languages conventionally display verbal lexemes under their second person singular imperative form, as this is the shortest form a verb can have in this language (Galand 1988: 236).¹⁰⁰

The Imperative is unique in Berber morphology in that agreement is not expressed by a set of pronominal prefixes. There exists a set of dedicated suffixes which have agreement function. Berber dialects distinguish both number and gender (the latter in the plural only). The Imperative suffixes in Ayt Lfrsi Tamazight are given below:

(5.2) Imperative endings

2SG	-Ø
2PL.M	-at ¹⁰¹
2PL.F	-imt

An example with the verb *awl* ‘to get married’:

(5.3) Imperative of *awl* ‘to get married’

2SG	<i>awl</i> -Ø
2PL.M	<i>awl</i> -at
2PL.F	<i>awl</i> -imt

¹⁰⁰ Some dialects also possess the Imperfective Imperative, an imperative form which is based upon the Imperfective stem: see §5.2.3.2.

¹⁰¹ Some dialects do not distinguish gender in the plural either: e.g. Zemmur. Other dialects realise the plural masculine form as *-m* instead: e.g. A. Warayn (Durand 1998: 117).

Some dialects also have a verbal form known as the *hortative*. This is used to persuade an interlocutor to act alongside the speaker and can be translated into English with the expression ‘let’s (do something)!’

Since this is intended as an order involving both the hearers and the speaker, it is consequently treated as a first person plural, as shown below:

(5.4) Formation of the hortative

2PL.M	<i>tʃtʃat</i>	‘eat!’
1PL	<i>tʃtʃat-aʔ</i>	‘let’s eat!’

As the example shows, it is formed by suffixing the first person plural suffix *-aʔ* of the non-imperative conjugation to the Imperative form.

§5.2.1.2 Aorist

The Aorist is formed from the same stem as the Imperative, but differs from the latter with regard to the subject-agreement markers used.

The set of subject-agreement markers used with the Aorist are found in all other verbal categories except for the Participle¹⁰² (and the Imperative itself). This set has already been listed in the section on pronouns, but is given again below:

(5.5) Subject-agreement markers

	SG	PL
1M	<i>-ʔ</i>	<i>n-</i>
1F	<i>-ʔ</i>	<i>n-</i>
2M	<i>t-....-t</i>	<i>t-....-m</i>
2F	<i>t-....-t</i>	<i>t-....-mt</i>

¹⁰² To be discussed below.

3M	<i>j-</i>	<i>-n</i>
3F	<i>t-</i>	<i>-nt</i>

§5.2.2 *Perfective stem*

The perfective stem is the form upon which the *Perfective* and the *Negative Perfective* are built. It is worth remarking that, similarly to what is reported for all other Moroccan Berber dialects, Ayt Atta Tamazight does not have a Resultative/Perfect form, which is attested only in Tuareg and in Eastern Berber (Basset 1952: 14).

§5.2.2.1 *Perfective*

A Berber cross-dialectal comparison of Aorist and Perfective forms shows that dialects with larger vocalic inventories (e.g. Tuareg) often manage to distinguish those two verbal forms by vocalic alternation only.

However, it was noticed that many Berber dialects have a very limited vocalic inventory, which, in most cases, only includes three vowels. This has important consequences for many verbal systems, as it leads to the syncretism of many Aorist and Perfective forms, whose minimal vocalic difference would keep them apart in other dialects.

Some cases of syncretism in Ayt Lfrsi Tamazight are given below:

(5.6) Syncretism of Aorist and Perfective forms: *bal* ‘move’

<i>j-bal</i>	3SG.M-move.AOR
<i>j-bal</i>	3SG.M-move.PFV

(5.7) Syncretism of Aorist and Perfective forms: *bbj* ‘cut’

t-bbj-t 2SG-cut.AOR-2SG
t-bbj-t 2SG-cut.PFV-2SG

However, many Ayt Atta Tamazight verbs show a vocalic contrast between Aorist and Perfective forms:

(5.8) *akr-ɛ* steal.AOR-1SG
ukr-ɛ steal.PFV-1SG

(5.9) *babb-ɛ* carry.AOR-1SG
bubbi-ɛ carry.PFV-1SG

Many vowel-ending stems show an *i* / *a* alternation in their Perfective paradigm, with *i* characterising 1st and 2nd persons singular, and *a* the remaining forms. A couple of examples are provided below:

(5.10) Perfective paradigm of *iri* ‘want’ (PFV stem *ri* / *ra*)

	SG	PL
1M	<i>ri-ɛ</i>	<i>n-ra</i>
1F	<i>ri-ɛ</i>	<i>n-ra</i>
2M	<i>t-ri-t</i>	<i>t-ra-m</i>
2F	<i>t-ri-t</i>	<i>t-ra-mt</i>
3M	<i>j-ra</i>	<i>ra-n</i>
3F	<i>t-ra</i>	<i>ra-nt</i>

(5.11) Perfective paradigm of *af* ‘find’ (PFV stem *ufi* / *ufa*)

	SG	PL
1M	<i>ufi-ɛ</i>	<i>n-ufa</i>
1F	<i>ufi-ɛ</i>	<i>n-ufa</i>

2M	<i>t-ufi-t</i>	<i>t-ufa-m</i>
2F	<i>t-ufi-t</i>	<i>t-ufa-mt</i>
3M	<i>j-ufa</i>	<i>ufa-n</i>
3F	<i>t-ufa</i>	<i>ufa-nt</i>

Whenever the Perfective stem ends in a single consonant, the alternation does not take place. For example, the following three verbs have *a* in non-stem-final position:

(5.12) Perfective paradigm of *aʕ* ‘play’ (PFV stem *aʕ*)

	SG	PL
1M ¹⁰³	<i>aʕ</i>	<i>n-aʕ</i>
1F	<i>aʕ</i>	<i>n-aʕ</i>
2M	<i>t-aʕ-t</i>	<i>t-aʕ-m</i>
2F	<i>t-aʕ-t</i>	<i>t-aʕ-mt</i>
3M	<i>j-aʕ</i>	<i>aʕ-n</i>
3F	<i>t-aʕ</i>	<i>aʕ-nt</i>

(5.13) Perfective paradigm of *bal* ‘move’ (PFV stem *bal*)

	SG	PL
1M	<i>bal-ʕ</i>	<i>n-bal</i>
1F	<i>bal-ʕ</i>	<i>n-bal</i>
2M	<i>t-bal-t</i>	<i>t-bal-m</i>
2F	<i>t-bal-t</i>	<i>t-bal-mt</i>
3M	<i>j-bal</i>	<i>bal-n</i>
3F	<i>t-bal</i>	<i>bal-nt</i>

(5.14) Perfective paradigm of *innij* ‘see’ (PFV stem *annaj*)

SG	PL
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¹⁰³ This verb has stem-final *ʕ*, and the first person (both masculine and feminine) shows merging of this stem sound with its own subject agreement marker: this verb-form is morphologically *aʕʕ*, although no schwa is realised between the two (identical) sounds, which simply merge.

1M	<i>annaj-κ</i>	<i>n-annaj</i>
1F	<i>annaj-κ</i>	<i>n-annaj</i>
2M	<i>t-annaj-t</i>	<i>t-annaj-m</i>
2F	<i>t-annaj-t</i>	<i>t-annaj-mt</i>
3M	<i>j-annaj</i>	<i>annaj-n</i>
3F	<i>t-annaj</i>	<i>annaj-nt</i>

Other verbs have *u* in penultimate position and do not show any alternation either:

(5.15) Perfective paradigm of *aggz* ‘go down’ (PFV stem *agguz*)

	SG	PL
1M	<i>agguz-κ</i>	<i>n-agguz</i>
1F	<i>agguz-κ</i>	<i>n-agguz</i>
2M	<i>t-agguz-t</i>	<i>t-agguz-m</i>
2F	<i>t-agguz-t</i>	<i>t-agguz-mt</i>
3M	<i>j-agguz</i>	<i>agguz-n</i>
3F	<i>t-agguz</i>	<i>agguz-nt</i>

A Perfective verb is allowed to appear as a standalone form, without any particle preceding it. However, there are a few particles which are used in combination with the Perfective. These are illustrated in chapter 6.

§5.2.2.2 Negative Perfective

A widely-attested feature of Berber dialects is the existence of a special form of perfective, which is exclusively used in negative clauses, i.e. after a negative particle: this is referred to as the Negative Perfective.

There are essentially four strategies to form a Negative Perfective out of a Perfective stem and syllable structure plays a fundamental role in determining which strategy a verb adopts.

The first two strategies involve verbs which are vowel-final in the Perfective. These Perfective verbs may be divided in verbs which do not undergo stem alternation and verbs which do. Perfective forms having a non-alternating a-final stem simply retain the final *a* in the Negative Perfective as well; this suggests that the vowel belongs to a verb's root, rather than pertaining to a template. A few examples are provided below:

(5.16) Non-alternating vowel-final verbs

	PFV	NPFV
'arrive'	<i>gula</i>	<i>gula</i>
'hear'	<i>slla</i>	<i>slla</i>
'be important'	<i>ħmma</i>	<i>ħmma</i>
'be close-by'	<i>lmala</i>	<i>lmala</i>
'be clean'	<i>nqqa</i>	<i>nqqa</i>
'sing'	<i>knna</i>	<i>knna</i>

This strategy seems to concern just a limited number of verbs.

Perfective verbs which undergo stem-final *i* / *a* vowel alternation simply generalise stem-final *i* to the whole paradigm in the Negative Perfective:

(5.17) Alternating vowel-final verbs

	PFV	NPFV
'find'	<i>uḥi</i> / <i>uḥa</i>	<i>uḥi</i>
'leave, drop'	<i>udʒdʒi</i> / <i>udʒdʒa</i>	<i>udʒdʒi</i>
'share'	<i>bdʕi</i> / <i>bdʕa</i>	<i>bdʕi</i>

‘separate’	<i>fsi / fsa</i>	<i>fsi</i>
‘be, exist’	<i>lli / lla</i>	<i>lli</i>
‘be, do, put’	<i>gi / ga</i>	<i>gi</i>

A large amount of verbs form the Negative Perfective in this way.

In addition to vowel-final Perfective verbs, there is also a large group of consonant-final verbs. These are in turn divided into two groups, namely those verbs whose Perfective ends in a single consonant (i.e. -VC) and those verbs whose Perfective ends in a consonant cluster (i.e. (-CC)).

Perfective verbs ending in –VC show an unchanged form of the Negative Perfective stem:

(5.18) -VC verbs

	PFV	NPFV
‘go down’	<i>agguz</i>	<i>agguz</i>
‘move’	<i>bal</i>	<i>bal</i>
‘think’	<i>kal</i>	<i>kal</i>
‘go back’	<i>akul</i>	<i>akul</i>

Perfective verbs which end in –CC form the Negative Perfective by infixation of *i* within the two members of the consonant cluster:

(5.19) -CC verbs

	PFV	NPFV
‘step on’	<i>ukl</i>	<i>ukil</i>
‘steal’	<i>ukl</i>	<i>ukil</i>
‘know’	<i>ssn</i>	<i>ssin</i>
‘listen’	<i>sflid</i>	<i>sflid</i>
‘hit’	<i>wt</i>	<i>wit</i>

‘give birth’	<i>urw</i>	<i>uriw</i>
‘be far’	<i>ŕrq</i>	<i>ŕriq</i>

The behaviour of the two groups of consonant-final verbs helps determine the vocalic or consonantal status of certain sounds whose status is otherwise somehow dubious: e.g. *u* vs. *w*, as in the contrast between *agguz*^{PFV} ‘go down’ → *agguz*^{NPFV} and *wt*^{PFV} ‘hit’ → *wit*^{NPFV} (cf. §2.5.3).

§5.2.3 Imperfective stem

There are two stems which are formally related in the domain of imperfectivity in AAT, namely the *Imperfective* and the *Imperfective Imperative*. Other Amazigh varieties also possess a Negative Imperfective stem but this is not attested in AAT.

§5.2.3.1 Imperfective

The formal similarity between the Aorist and the Imperfective led many scholars to talk about the latter as having derived from the former. As the following Ayt Atta data show, the Imperfective stem can usually be derived from the Imperative/Aorist stem in many different ways, although, all in all, only a few strategies recur. The most widespread ones include: prefixation of *tt-*, gemination of a middle consonant (used in particular with triconsonantal verbs), and reduplication of an internal vowel. In what follows, a list of Aorist verb forms is provided alongside their corresponding Imperfective forms; for each verb, the rightmost column indicates the Perfective form for reference purposes. The morphological relation between Aorist and Imperfective is on the whole rather transparent, lending support to the theory that the Imperfective is an ancient derived form (e.g. Galand 2010):

(5.20) $AC_1C_2 \rightarrow \mathbf{TT}\text{-}AC_1C_2$

	AOR	IPFV	PFV
‘bury’	<i>adr</i>	<i>ttadr</i>	<i>udr</i>
‘hang’	<i>agl</i>	<i>ttagl</i>	<i>ugl</i>
‘step on’	<i>akl</i>	<i>ttakl</i>	<i>ukl</i>
‘steal’	<i>akr</i>	<i>ttakr</i>	<i>ukr</i>
‘to recognise’	<i>akz</i>	<i>ttakz</i>	<i>ukz</i>
‘climb, go up’	<i>alj</i>	<i>ttalj</i>	<i>ulj</i>
‘hold’	<i>amz</i> ^f	<i>ttamz</i> ^f	<i>umz</i> ^f
‘open’	<i>anf</i>	<i>ttanf</i>	<i>unf</i>
‘try’	<i>arm</i>	<i>ttarm</i>	<i>urm</i>
‘give birth’	<i>arw</i>	<i>ttarw</i>	<i>urw</i>
‘take’	<i>asj</i>	<i>ttasj</i>	<i>usj</i>
‘push, support’	<i>atg</i>	<i>ttatg</i>	<i>utg</i>
‘bring, take’	<i>awj</i>	<i>ttawj</i>	<i>iwj</i>
‘marry’	<i>awl</i>	<i>ttawl</i>	<i>iwl</i>
‘eat’	<i>awɛ</i>	<i>ttawɛ</i>	<i>iwɛ</i>
‘send’	<i>azn</i>	<i>ttazn</i>	<i>uzn</i>

(5.21) $C_1AC_2 \rightarrow \mathbf{TT}\text{-}C_1AC_2$

	AOR	IPFV	PFV
‘move’	<i>bal</i>	<i>ttbal</i>	<i>bal</i>

(5.22) $C_1C_1U \rightarrow \mathbf{TT}\text{-}C_1C_1U$

	AOR	IPFV	PFV
‘go’	<i>ddu</i>	<i>ttddu</i>	<i>ddi/dda</i>
‘defeat’	<i>rru</i>	<i>ttrru</i>	<i>rrri/rra</i>
‘spread out’	<i>ssu</i>	<i>ttssu</i>	<i>ssi/ssa</i>
‘forget’	<i>ttu</i>	<i>ttttu</i>	<i>ttu</i>
‘be bad’	<i>xxu</i>	<i>ttxxu</i>	<i>xxi/xxa</i>
‘smell good’	<i>33u</i>	<i>tt33u</i>	<i>33i/33a</i>
‘smell bad’	<i>3^f3^fu</i>	<i>tt3^f3^fu</i>	<i>3^f3^fi/3^f3^fa</i>

(5.23) $C_1C_2U \rightarrow TT-C_1C_2U$

	AOR	IPFV	PFV
‘be good’	<i>ħlu</i>	<i>tħlu</i>	<i>ħli/ħla</i>
‘be dirty’	<i>rku</i>	<i>ttrku</i>	<i>rki/rka</i>
‘be expensive’	<i>ɛlu</i>	<i>ttɛlu</i>	<i>ɛ^wli/ɛ^wla</i>
‘keep quiet’	<i>rs^ʕu</i>	<i>ttrs^ʕu</i>	<i>rs^ʕi/rs^ʕa</i>
‘be strong’	<i>šhu</i>	<i>ttsħu</i>	<i>šhi/sħa</i>
‘be difficult’	<i>ʃqu</i>	<i>ttʃqa</i>	<i>ʃqi/ʃqa</i>
‘be intelligent’	<i>ʃwu</i>	<i>ttʃwu</i>	<i>ʃwi/ʃwa</i>

(5.24) $C_1C_1C_2 \rightarrow TT-C_1C_1C_2$

	AOR	IPFV	PFV
‘cut’	<i>bbj</i>	<i>ttbbj</i>	<i>bbj</i>
‘cover’	<i>ddl</i>	<i>ttddl</i>	<i>ddl</i>
‘pour’	<i>ffj</i>	<i>ttffj</i>	<i>ffj</i>
‘hide’	<i>ffr</i>	<i>ttffr</i>	<i>ffr</i>
‘go out’	<i>ffɛ</i>	<i>ttffɛ</i>	<i>ffɛ</i>
‘be scared’	<i>gg^wd</i>	<i>ttgg^wd</i>	<i>gg^wd</i>
‘touch’	<i>gg^wj</i>	<i>ttgg^wj</i>	<i>gg^wj</i>
‘shake’	<i>llj</i>	<i>ttllj</i>	<i>llj</i>
‘take off’	<i>kks</i>	<i>ttkks</i>	<i>kks</i>
‘be humid’	<i>mmɛ</i>	<i>ttmmɛ</i>	<i>mmɛ</i>
‘wait’	<i>qqł</i>	<i>ttqqł</i>	<i>qqł</i>
‘shut’	<i>qqn</i>	<i>ttqqn</i>	<i>qqn</i>
‘unthread’	<i>ssf</i>	<i>ttssf</i>	<i>ssf</i>
‘take a bath’	<i>ʃʃf</i>	<i>ttʃʃf</i>	<i>ʃʃf</i>
‘suckle’	<i>t^ʕt^ʕd^ʕj</i>	<i>ttt^ʕt^ʕd^ʕj</i>	<i>t^ʕt^ʕd^ʕj</i>
‘hold, catch’	<i>t^ʕt^ʕf</i>	<i>ttt^ʕt^ʕf</i>	<i>t^ʕt^ʕf</i>
‘turn ar. sth’	<i>ttj</i>	<i>ttttj</i>	<i>ttj</i>
‘climb’	<i>ttl</i>	<i>ttttl</i>	<i>ttl</i>
‘ask, beg’	<i>ttr</i>	<i>ttttr</i>	<i>ttr</i>

‘be healthy’	<i>ʒʒj</i>	<i>ttʒʒj</i>	<i>ʒʒj</i>
‘send s.o. away’	<i>zʕzʕl</i>	<i>ttzʕzʕl</i>	<i>zʕzʕl</i>
‘nibble’	<i>zʕzʕm</i>	<i>ttzʕzʕm</i>	<i>zʕzʕm</i>

$$(5.25) \quad C_1C_2AC_3A \rightarrow TT-C_1C_2AC_3A$$

	AOR	IPFV	PFV
‘place’	<i>blasʕa</i>	<i>ttblasʕa</i>	<i>blasʕi/blasʕa</i>

$$(5.26) \quad C_1AC_2C_3A \rightarrow TT-C_1AC_2C_3A$$

	AOR	IPFV	PFV
‘score’	<i>marka</i>	<i>ttmarka</i>	<i>marka</i>

$$(5.27) \quad C_1C_2C_2A \rightarrow TT-C_1C_2C_2A$$

	AOR	IPFV	PFV
‘be interesting’	<i>ʕimma</i>	<i>ttʕimma</i>	<i>ʕimma</i>
‘be clean’	<i>nqqa</i>	<i>ttnqqa</i>	<i>nqqa</i>
‘sing’	<i>ʕnna</i>	<i>ttʕnna</i>	<i>ʕnna</i>

$$(5.28) \quad IC_1I \rightarrow TT-IC_1I$$

	AOR	IPFV	PFV
‘be, exist’	<i>ili</i>	<i>ttili</i>	<i>lli/lla</i>
‘say’	<i>ini</i>	<i>ttini</i>	<i>nni/na</i>
‘want’	<i>iri</i>	<i>ttiri</i>	<i>ri/ra</i>

$$(5.29) \quad IC_1IC_2 \rightarrow TT-IC_1IC_2$$

	AOR	IPFV	PFV
‘look for’	<i>inig</i>	<i>ttinig</i>	<i>anug</i>
‘think’	<i>ikil</i>	<i>ttikil</i>	<i>kal</i>
‘hear’	<i>isil</i>	<i>ttisil</i>	<i>slla</i>
‘know’	<i>isin</i>	<i>ttisin</i>	<i>ssn</i>
‘be heavy’	<i>izʕij</i>	<i>ttizʕij</i>	<i>zʕzʕaj</i>

	‘look at, know’	<i>izʿir</i>	<i>ttizʿir</i>	<i>zʿri/zʿra</i>
(5.30)	$IC_1C_1IC_2 \rightarrow TT-IC_1C_1IC_2$			
		AOR	IPFV	PFV
	‘see’	<i>innij</i>	<i>ttinnij</i>	<i>annaj</i>
(5.31)	$C_1IC_2 \rightarrow TT-C_1IC_2$			
		AOR	IPFV	PFV
	‘remain’	<i>sil</i>	<i>ttsil</i>	<i>sul</i>
(5.32)	$IC_1C_2IC_3 \rightarrow TT-IC_1C_2IC_3$			
		AOR	IPFV	PFV
	‘move’	<i>ikmir</i>	<i>ttikmir</i>	<i>akmur</i>
(5.33)	$C_1C_2IC_2I \rightarrow TT-C_1C_2IC_2I$			
		AOR	IPFV	PFV
	‘be close-by’	<i>lmili</i>	<i>ttlmili</i>	<i>lmala</i>
(5.34)	$C_1C_2C_3 \rightarrow TT-C_1C_2C_3$			
		AOR	IPFV	PFV
	‘defend’	<i>dfʿ</i>	<i>ttdfʿ</i>	<i>dfʿ</i>
	‘to be breezy’	<i>rwħ</i>	<i>ttrwħ</i>	<i>rwħ</i>
(5.35)	$C_1UC_2 \rightarrow TT-C_1UC_2$			
		AOR	IPFV	PFV
	‘turn’	<i>dʿur</i>	<i>ttdʿur</i>	<i>dʿur</i>
	‘go together’	<i>mun</i>	<i>ttmun</i>	<i>man</i>
	‘blow’	<i>sudʿ</i>	<i>ttsudʿ</i>	<i>sudʿ</i>
	‘visit’	<i>zʿur</i>	<i>ttzʿur</i>	<i>zʿur</i>
	‘be deep’	<i>ʔub</i>	<i>ttʔub</i>	<i>ʔub</i>

$$(5.36) \quad C_1C_2UC_3 \rightarrow \mathbf{TT}\text{-}C_1C_2UC_3$$

	AOR	IPFV	PFV
‘have run out’	<i>smur</i>	<i>ttsmur</i>	<i>smar</i>

$$(5.37) \quad C_1UC_2U \rightarrow \mathbf{TT}\text{-}C_1UC_2U$$

	AOR	IPFV	PFV
‘arrive’	<i>gulu</i>	<i>ttgulu</i>	<i>gula</i>

$$(5.38) \quad UC_1UC_2 \rightarrow \mathbf{TT}\text{-}UC_1UC_2$$

	AOR	IPFV	PFV
‘go back’	<i>ukul</i>	<i>ttukul</i>	<i>akul</i>

$$(5.39) \quad UC_1U \rightarrow \mathbf{TT}\text{-}UC_1U$$

	AOR	IPFV	PFV
‘write’	<i>uru</i>	<i>tturu</i>	<i>aru</i>

$$(5.40) \quad UC_1C_2U \rightarrow \mathbf{TT}\text{-}UC_1C_2U$$

	AOR	IPFV	PFV
‘be soft’	<i>ulwu</i>	<i>ttulwu</i>	<i>alwu</i>
‘go down’	<i>urg^wu</i>	<i>tturg^wu</i>	<i>arg^wu</i>

$$(5.41) \quad C_1C_2C_2U \rightarrow \mathbf{TT}\text{-}C_1C_2C_2U$$

	AOR	IPFV	PFV
‘be spicy’	<i>ħrru</i>	<i>ttħrru</i>	<i>ħrri/ħrra</i>
‘advise’	<i>ws^ʕs^ʕu</i>	<i>ttws^ʕs^ʕu</i>	<i>ws^ʕs^ʕa</i>

$$(5.42) \quad C_1C_2C_2U \rightarrow \mathbf{TT}\text{-}C_1C_2C_2A$$

	AOR	IPFV	PFV
‘need’	<i>χs^ʕs^ʕu</i>	<i>ttχs^ʕs^ʕa</i>	<i>χs^ʕs^ʕa</i>

$$(5.43) \quad C_1C_2UC_2U \rightarrow \mathbf{TT}\text{-}C_1C_2UC_2U$$

	AOR	IPFV	PFV
‘be lukewarm’	<i>ldudu</i>	<i>ttludu</i>	<i>ldudi/lduda</i>

$$(5.44) \quad C_1A \rightarrow \mathbf{TT}\text{-}C_1A$$

	AOR	IPFV	PFV
‘yawn’	<i>fa</i>	<i>ttfa</i>	<i>fi/fa</i>

$$(5.45) \quad C_1I \rightarrow \mathbf{TT}\text{-}C_1I$$

	AOR	IPFV	PFV
‘tell off s.o.’	<i>z^ʕi</i>	<i>ttz^ʕi</i>	<i>z^ʕi</i>

$$(5.46) \quad AC_1 \rightarrow \mathbf{TT}\text{-}AC_1$$

	AOR	IPFV	PFV
‘play’ / ‘fall’	<i>aʕ</i>	<i>ttax</i>	<i>aʕ</i>

$$(5.47) \quad C_1C_2IC_3 \rightarrow \mathbf{TT}\text{-}C_1C_2IC_3$$

	AOR	IPFV	PFV
‘be almost’	<i>ħd^ʕir</i>	<i>ttħd^ʕir</i>	<i>ħd^ʕar</i>
‘be sweet’	<i>ħliw</i>	<i>ttħliw</i>	<i>ħllaw</i>
‘be soft’	<i>lwix</i>	<i>ttlwix</i>	<i>lgg^wax</i>
‘be bitter’	<i>rz^ʕig</i>	<i>ttrz^ʕig</i>	<i>rz^ʕag</i>
‘be tall’	<i>ʕzif</i>	<i>ttʕzif</i>	<i>ʕ^wzzif</i>
‘be old’	<i>wsir</i>	<i>ttwsir</i>	<i>wssir</i>
‘be short’	<i>wzil</i>	<i>ttwzil</i>	<i>wzzil</i>
‘be red’	<i>zwix</i>	<i>ttzwix</i>	<i>zgg^wax</i>

$$(5.48) \quad C_1C_2IC_2 \rightarrow \mathbf{TT}\text{-}C_1C_2IC_2$$

	AOR	IPFV	PFV
‘be lightweight’	<i>fsis</i>	<i>ttfsis</i>	<i>fsus</i>

$$(5.49) \quad C_1C_1IC_2C_3 \rightarrow \mathbf{TT-C_1IC_2C_3}$$

	AOR	IPFV	PFV
‘be numerous’	<i>ggidj</i>	<i>ttgidj</i>	<i>gg^wudj</i>

$$(5.50) \quad C_1C_1IC_2 \rightarrow \mathbf{TT-C_1IC_2A}$$

	AOR	IPFV	PFV
‘stay’	<i>qqim</i>	<i>ttkima</i>	<i>qqimi/qqima</i>

$$(5.51) \quad C_1C_1AC_2 \rightarrow \mathbf{TT-C_1AC_2}$$

	AOR	IPFV	PFV
‘be dry’	<i>qqar</i>	<i>ttkar</i>	<i>qqur</i>

$$(5.52) \quad IC_1C_2 \rightarrow \mathbf{TT-IC_1C_2}$$

	AOR	IPFV	PFV
‘can’	<i>ikij</i>	<i>ttikij</i>	<i>kij</i>

$$(5.53) \quad C_1C_2C_2 \rightarrow \mathbf{TT-C_1C_2C_2-A}$$

	AOR	IPFV	PFV
‘stand up’	<i>bdd</i>	<i>ttbdda</i>	<i>bbdi/bdda</i>

$$(5.54) \quad AC_1C_1C_2 \rightarrow \mathbf{TT-AC_1C_1C_2-A}$$

	AOR	IPFV	PFV
‘run’	<i>azzl</i>	<i>ttazzla</i>	<i>uzzli/uzzla</i>

$$(5.55) \quad C_1AC_2C_2 \rightarrow \mathbf{TT-C_1AC_2C_2-A}$$

	AOR	IPFV	PFV
‘carry a baby’	<i>babb</i>	<i>ttbabba</i>	<i>bubbi/bubba</i>

$$(5.56) \quad C_1AC_1 \rightarrow \mathbf{TT-C_1AC_1-A}$$

	AOR	IPFV	PFV
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	‘return’	<i>rar</i>	<i>ttrara</i>	<i>ruri/rura</i>
(5.57)	$AC_1C_2 \rightarrow TT-AC_1C_2-A$			
		AOR	IPFV	PFV
	‘leave, drop’	<i>ad3d3</i>	<i>ttad3d3a</i>	<i>ud3d3i/ud3d3a</i>
(5.58)	$C_1C_2 \rightarrow TT-C_1C_2-A$			
		AOR	IPFV	PFV
	‘hit, grind’	<i>dz</i>	<i>ttdza</i>	<i>dzi/dza</i>
(5.59)	$C_1C_1 \rightarrow TT-C_1C_1-A$			
		AOR	IPFV	PFV
	‘pass by, visit’	<i>kk</i>	<i>ttkka</i>	<i>kki/kka</i>
(5.60)	$C_1C_2C_3 \rightarrow TT-C_1C_2C_3-A$			
		AOR	IPFV	PFV
	‘keep quiet’	<i>fst</i>	<i>ttfsta</i>	<i>fsti/fsta</i>
(5.61)	$AC_1 \rightarrow TT-AC_1-A$			
		AOR	IPFV	PFV
	‘find’	<i>af</i>	<i>ttafa</i>	<i>ufi/ufo</i>
(5.62)	$C_1 \rightarrow TT-C_1C_1-A$			
		AOR	IPFV	PFV
	‘be’	<i>g</i>	<i>ttgga</i>	<i>gi/ga</i>
(5.63)	$C_1C_2 \rightarrow TT-C_1C_2C_2-A$			
		AOR	IPFV	PFV
	‘eat’	<i>tf</i>	<i>tttfja</i>	<i>tfifi/tfifa</i>

(5.64) $C_1C_1AC_2C_2 \rightarrow TT-C_1C_2C_2-A$

	AOR	IPFV	PFV
‘swear’	<i>ggall</i>	<i>ttglla</i>	<i>gg^wulli/gg^wulla</i>

(5.65) $C_1C_2C_2C_3 \rightarrow TT-C_1C_2C_2AC_3$

	AOR	IPFV	PFV
‘pour’	<i>frrɛ</i>	<i>ttfiraɛ</i>	<i>frrɛ</i>
‘watch’	<i>fr^ɛr^ɛɜ</i>	<i>ttfr^ɛr^ɛaɜ</i>	<i>fr^ɛr^ɛɜ</i>
‘finish’	<i>kmml</i>	<i>ttkmmal</i>	<i>kmml</i>
‘digest’	<i>lqqm</i>	<i>ttlqqam</i>	<i>lqqm</i>
‘daub’	<i>mlls</i>	<i>ttmllas</i>	<i>mlls</i>
‘lift’	<i>nqqr</i>	<i>ttnqqar</i>	<i>nqqr</i>
‘turn down’	<i>nqqs</i>	<i>ttnqqas</i>	<i>nqqs</i>
‘estimate’	<i>qddr</i>	<i>ttqddar</i>	<i>qddr</i>
‘drip’	<i>qt^ɛt^ɛr</i>	<i>ttqt^ɛt^ɛar</i>	<i>qt^ɛt^ɛr</i>
‘rest’	<i>rjjd^ɛ</i>	<i>ttrjjad^ɛ</i>	<i>rjjd^ɛ</i>
‘mix’	<i>rkk^wf</i>	<i>ttrkk^waf</i>	<i>rkk^wf</i>
‘catch s.o.’	<i>ɣbbr</i>	<i>ttɣbbar</i>	<i>ɣbbr</i>
‘be tilted’	<i>snnd</i>	<i>ttsnnad</i>	<i>snnd</i>
‘tear’	<i>ɣrrj</i>	<i>ttɣrraj</i>	<i>ɣrrj</i>
‘score’	<i>ɣɜɜl</i>	<i>ttɣɜɜal</i>	<i>ɣɜɜl</i>
‘be dirty’	<i>wssɣ</i>	<i>ttwssaɣ</i>	<i>wssɣ</i>
‘mix’	<i>ɣlld^ɛ</i>	<i>ttɣllad^ɛ</i>	<i>ɣlld^ɛ</i>
‘tighten’	<i>ɜnnd^ɛ</i>	<i>ttɜnnad^ɛ</i>	<i>ɜnnd^ɛ</i>
‘fill up, be full’	<i>ɣmmr</i>	<i>ttɣmmar</i>	<i>ɣmmr</i>
‘have pain’	<i>ɣr^ɛr^ɛm</i>	<i>ttɣr^ɛr^ɛam</i>	<i>ɣr^ɛr^ɛm</i>
‘be late’	<i>ɣt^ɛt^ɛr</i>	<i>ttɣt^ɛt^ɛr</i>	<i>ɣt^ɛt^ɛr</i>

(5.66) $C_1AC_2C_3 \rightarrow TT-C_1AC_2AC_3$

	AOR	IPFV	PFV
‘halt, stop’	<i>ħas^ɛr</i>	<i>ttħas^ɛar</i>	<i>ħus^ɛr</i>
‘predict’	<i>kaff</i>	<i>ttkafaf</i>	<i>kaff</i>

‘travel’	<i>safr</i>	<i>ttsafar</i>	<i>safr</i>
‘increase’	<i>zajd</i>	<i>ttzajad</i>	<i>zajd</i>
‘go away’	<i>ɣajn</i>	<i>ttɣajan</i>	<i>ɣajn</i>

(5.67) $C_1C_2C_3 \rightarrow TT-C_1C_2AC_3$

	AOR	IPFV	PFV
‘play’	<i>ɦd^ɣr^ɣ</i>	<i>ttɦd^ɣar^ɣ</i>	<i>ɦd^ɣr^ɣ</i>
‘learn’	<i>lmd</i>	<i>ttlmd</i>	<i>lmd</i>
‘play’	<i>lɣb</i>	<i>ttlɣab</i>	<i>lɣb</i>
‘stuff’	<i>rbd^ɣ</i>	<i>ttrbad^ɣ</i>	<i>rbd^ɣ</i>
‘to pasture’	<i>rɦl</i>	<i>ttrɦal</i>	<i>rɦl</i>
‘be happy’	<i>rɣqq</i>	<i>ttrɣaqq</i>	<i>rɣqq</i>
‘dance’	<i>ɟd^ɣɦ</i>	<i>ttɟd^ɣaɦ</i>	<i>ɟd^ɣɦ</i>
‘be tilted’	<i>sdr</i>	<i>ttsdar</i>	<i>sdr</i>
‘light, turn on’	<i>ɟɣl</i>	<i>ttɟɣal</i>	<i>ɟɣl</i>
‘be easy’	<i>wɦn</i>	<i>ttwɦan</i>	<i>wɦn</i>
‘wait (for s.o.)’	<i>wɟd</i>	<i>ttwɟad</i>	<i>wɟd</i>
‘be far away’	<i>ɣrq</i>	<i>ttɣraq</i>	<i>ɣrq</i>

(5.68) $C_1C_2C_3C_4 \rightarrow TT-C_1C_2C_3AC_4$

	AOR	IPFV	PFV
‘sit’	<i>Ɂ^wɟdm</i>	<i>ttɁ^wɟdam</i>	<i>Ɂ^wɟdm</i>

(5.69) $C_1IC_2C_3 \rightarrow TT-C_1IC_2IC_3$

	AOR	IPFV	PFV
‘be salty’	<i>mir^ɣɁ</i>	<i>ttmir^ɣiɁ</i>	<i>mir^ɣɁ</i>
‘be big, grow’	<i>χitr</i>	<i>ttχitir</i>	<i>χatr</i>

(5.70) $C_1UC_2C_3 \rightarrow TT-C_1UC_2UC_3$

	AOR	IPFV	PFV
‘stay up’	<i>mujd</i>	<i>ttmujud</i>	<i>mujd</i>

$$(5.71) \quad C_1C_1C_2 \rightarrow TT-UC_1C_1UC_2$$

	AOR	IPFV	PFV
‘get off’	<i>ggz</i>	<i>ttugguz</i>	<i>agguz</i>

$$(5.72) \quad C_1C_2U \rightarrow C_1C_2C_2U$$

	AOR	IPFV	PFV
‘start’	<i>bdu</i>	<i>bddu</i>	<i>bdi/bda</i>
‘share, divide’	<i>bd^ʕu</i>	<i>bt^ʕt^ʕu</i>	<i>bd^ʕi/bd^ʕa</i>
‘build’	<i>bnu</i>	<i>bnnu</i>	<i>bni/bna</i>
‘separate’	<i>fsu</i>	<i>fssu</i>	<i>fsi/fsa</i>
‘pierce’	<i>jbu</i>	<i>jbbu</i>	<i>jbi/jba</i>
‘bend (oneself)’	<i>knu</i>	<i>knnu</i>	<i>kni/kna</i>
‘rent’	<i>kru</i>	<i>krru</i>	<i>kri/kra</i>
‘be empty’	<i>χwu</i>	<i>χwwwu</i>	<i>χwi/χwa</i>
‘be dry’	<i>zwu / zg^wu</i>	<i>zgg^wu</i>	<i>zwi/zwa</i>

$$(5.73) \quad C_1C_2C_3 \rightarrow C_1C_2C_2C_3$$

	AOR	IPFV	PFV
‘be swollen’	<i>bzj</i>	<i>bzzj</i>	<i>bzj</i>
‘dig’	<i>fird^ʕ</i>	<i>fird^ʕ</i>	<i>fird^ʕ</i>
‘be happy’	<i>frħ</i>	<i>frrħ</i>	<i>frħ</i>
‘ride’	<i>ħrj</i>	<i>ħrrj</i>	<i>ħrj</i>
‘burn’	<i>k^wmd^ʕ</i>	<i>k^wmmd^ʕ</i>	<i>k^wmd^ʕ</i>
‘smoke’	<i>kmj</i>	<i>kmmj</i>	<i>kmj</i>
‘be cold’	<i>k^wrm</i>	<i>k^wrrm</i>	<i>k^wrm</i>
‘plough’	<i>krz</i>	<i>krrz</i>	<i>krz</i>
‘enter’	<i>k^wfm</i>	<i>k^wffm</i>	<i>k^wfm</i>
‘pull’	<i>ldj</i>	<i>lddj</i>	<i>ldj</i>
‘jump’	<i>nd^ʕw</i>	<i>nt^ʕt^ʕw</i>	<i>nd^ʕw</i>
‘get up’	<i>nkr</i>	<i>nkkrr</i>	<i>nkr</i>
‘fall’	<i>rdl</i>	<i>rddl</i>	<i>rdl</i>

‘borrow’	<i>rdʕl</i>	<i>rtʕtʕl</i>	<i>rdʕl</i>
‘shut’	<i>rgl</i>	<i>rggl</i>	<i>rgl</i>
‘insult’	<i>rgm</i>	<i>rggm</i>	<i>rgm</i>
‘cover’	<i>klf</i>	<i>klf</i>	<i>klf</i>
‘put on a shoulder’	<i>kns</i>	<i>knns</i>	<i>kns</i>
‘slaughter’	<i>krs</i>	<i>krrs</i>	<i>krs</i>
‘insert’	<i>rʃʕj</i>	<i>rʃʃʕj</i>	<i>rʃʕj</i>
‘mix’	<i>rwj</i>	<i>rggʷj</i>	<i>rwj</i>
‘run’	<i>rwl</i>	<i>rggʷl</i>	<i>rwl</i>
‘open’	<i>rzʕm</i>	<i>rzʕzʕm</i>	<i>rzʕm</i>
‘be late’	<i>rzʕn</i>	<i>rzʕzʕn</i>	<i>rzʕn</i>
‘clean’	<i>slħ</i>	<i>sllħ</i>	<i>slħ</i>
‘coagulate’	<i>slj</i>	<i>sllj</i>	<i>slj</i>
‘loosen’	<i>srj</i>	<i>srrj</i>	<i>srj</i>
‘pull’	<i>ʒbd</i>	<i>ʒbbd</i>	<i>ʒbd</i>
‘live, dwell’	<i>zdk</i>	<i>zddk</i>	<i>zdk</i>
‘walk fast’	<i>zrb</i>	<i>zrrb</i>	<i>zrb</i>
‘pass, leave’	<i>zrj</i>	<i>zrrj</i>	<i>zrj</i>

$$(5.74) \quad AC_1C_1 \rightarrow AC_1C_1\text{-}A$$

	AOR	IPFV	PFV
‘cry’	<i>all</i>	<i>alla</i>	<i>ulli/ulla</i>

$$(5.75) \quad AC_1C_2C_2 \rightarrow AC_1C_2\textbf{AC}_2$$

	AOR	IPFV	PFV
‘jump’	<i>ajll</i>	<i>ttajlal</i>	<i>ujlli/ujlla</i>

$$(5.76) \quad C_1IC_2C_3 \rightarrow C_1\textbf{AC}_2\textbf{AC}_3$$

	AOR	IPFV	PFV
‘speak’	<i>siwl ~ sawl</i>	<i>sawal</i>	<i>sawl</i>

$$(5.77) \quad C_1C_2IC_3C_4C_5 \rightarrow C_1C_2IC_3C_4IC_5$$

	AOR	IPFV	PFV
‘say lies’	<i>skirks</i>	<i>skirkis</i>	<i>skarks</i>

$$(5.78) \quad C_1C_2IC_3C_3 \rightarrow C_1C_2IC_3IC_3$$

	AOR	IPFV	PFV
‘sieve’	<i>ssiff</i>	<i>ssifif</i>	<i>ssuffi/ssuffa</i>

$$(5.79) \quad C_1C_2IC_3C_4 \rightarrow C_1C_2IC_3IC_4$$

	AOR	IPFV	PFV
‘wash’	<i>ssird</i>	<i>ssirid</i>	<i>ssird</i>
‘make s.o. take’	<i>ssiwj</i>	<i>ssiwij</i>	<i>ssiwj</i>

$$(5.80) \quad C_1C_2UC_3C_3C_4 \rightarrow C_1C_2UC_3C_3UC_4$$

	AOR	IPFV	PFV
‘make s.o. work’	<i>snuggr</i>	<i>snuggur</i>	<i>snuggr</i>

$$(5.81) \quad C_1C_2UC_3 \rightarrow C_1C_2UC_3U$$

	AOR	IPFV	PFV
‘shout’	<i>skuji</i>	<i>skuju</i>	<i>skuji/skuja</i>

$$(5.82) \quad C_1C_2UC_3 \rightarrow C_1C_2UC_3U$$

	AOR	IPFV	PFV
‘be the first’	<i>zwur</i>	<i>zgg^wur</i>	<i>zwar</i>

$$(5.83) \quad C_1C_2IC_3C_3 \rightarrow C_1C_2IC_3C_3I$$

	AOR	IPFV	PFV
‘drip’	<i>smiqq</i>	<i>smiqqi</i>	<i>smaqqi/smaqqa</i>

$$(5.84) \quad C_1C_2C_3AC_4 \rightarrow C_1C_2C_3AC_4A$$

	AOR	IPFV	PFV
‘mix, pour’	<i>smrar</i>	<i>smrara</i>	<i>smruri/smrura</i>
(5.85) $C_1C_2UC_3C_4 \rightarrow C_1C_2UC_3UC_4$			
	AOR	IPFV	PFV
‘be smooth’	<i>flulf</i>	<i>fluluf</i>	<i>flulf</i>
(5.86) $C_1C_2UC_2C_2C_3 \rightarrow C_1C_2UC_2C_2UC_3$			
	AOR	IPFV	PFV
‘be sour, unripe’	<i>zmummħ</i>	<i>tzmummuħ</i>	<i>zmummħ</i>
(5.87) $C_1C_1UC_2C_3 \rightarrow C_1C_1UC_2UC_3$			
	AOR	IPFV	PFV
‘kiss’	<i>ssudm</i>	<i>ssudum</i>	<i>ssudm</i>
‘make go out’	<i>ssufk</i>	<i>ssufuk</i>	<i>ssufk</i>
(5.88) $C_1UC_2C_2C_3 \rightarrow C_1UC_2C_2UC_3$			
	AOR	IPFV	PFV
‘watch’	<i>suggr</i>	<i>suggur</i>	<i>suggr</i>
(5.89) $C_1UC_2C_3 \rightarrow C_1UC_2UC_3$			
	AOR	IPFV	PFV
‘spit’	<i>sutf</i>	<i>sutuf</i>	<i>sutf</i>
(5.90) $C_1UC_2C_2 \rightarrow C_1UC_2C_2U$			
	AOR	IPFV	PFV
‘shake’	<i>suss</i>	<i>sussu</i>	<i>sussi/sussa</i>
(5.91) $C_1C_1UC_2C_2 \rightarrow C_1C_1UC_2UC_2$			
	AOR	IPFV	PFV

‘suckle’	<i>ssumm</i>	<i>ssumum</i>	<i>ssummi/ssumma</i>
‘breastfeed’	<i>ssut^ʕd^ʕ</i>	<i>ssud^ʕud^ʕ</i>	<i>ssut^ʕd^ʕ</i>

$$(5.92) \quad C_1C_2C_3C_4 \rightarrow C_1C_2C_3\mathbf{A}C_4$$

	AOR	IPFV	PFV
‘burn’	<i>sk^wmd^ʕ</i>	<i>sk^wmad^ʕ</i>	<i>sk^wmd^ʕ</i>
‘turn off’	<i>sχsj</i>	<i>sχsaj</i>	<i>sχsj</i>

$$(5.93) \quad C_1C_1C_2C_3 \rightarrow C_1C_1C_2C_3\mathbf{A}$$

	AOR	IPFV	PFV
‘teach’	<i>sskr</i>	<i>sskra</i>	<i>sskri/sskra</i>
‘cook’	<i>ssmr</i>	<i>ssmra</i>	<i>ssmri/ssmra</i>

$$(5.94) \quad C_1C_2C_3 \rightarrow C_1C_2\mathbf{A}C_3$$

	AOR	IPFV	PFV
‘do’	<i>skr</i>	<i>skar</i>	<i>skr</i>

$$(5.95) \quad C_1C_2C_3 \rightarrow C_1C_2\mathbf{U}C_3$$

	AOR	IPFV	PFV
‘lay, drop’	<i>srs</i>	<i>srus</i>	<i>srs</i>
‘leave a trace’	<i>ssfr^ʕ</i>	<i>ssfur^ʕ</i>	<i>ssfr^ʕ</i>

$$(5.96) \quad C_1C_2C_3C_4C_5 \rightarrow C_1C_2C_3C_4\mathbf{U}C_5$$

	AOR	IPFV	
‘stroke’	<i>strfs</i>	<i>strfus</i>	<i>strfs</i>

$$(5.97) \quad C_1C_2 \rightarrow C_1\mathbf{C}_1\mathbf{A}C_2$$

	AOR	IPFV	PFV
‘fall’	<i>d^ʕr</i>	<i>t^ʕt^ʕar</i>	<i>d^ʕr</i>
‘sleep’	<i>gn</i>	<i>ggan</i>	<i>gn</i>
‘throw’	<i>gr</i>	<i>ggar</i>	<i>gr</i>

‘study’, call’	<i>kr</i>	<i>qqar</i>	<i>kr</i>
‘dig’	<i>kz</i>	<i>qqaz</i>	<i>kz</i>
‘buy’	<i>sk</i>	<i>ssak</i>	<i>sk</i>
‘hit’	<i>wt</i>	<i>kkat</i>	<i>wt</i>
‘drink’	<i>sw</i>	<i>ssa</i>	<i>sw</i>

$$(5.98) \quad C_1C_1C_2C_3C_4 \rightarrow C_1C_1C_2C_3\mathbf{A}C_4$$

	AOR	IPFV	PFV
‘hide’	<i>ssntl</i>	<i>ssntal</i>	<i>ssntl</i>

$$(5.99) \quad C_1C_2 \rightarrow C_1C_2\mathbf{C}_2\mathbf{A}$$

	AOR	IPFV	PFV
‘herd’	<i>ks</i>	<i>kssa</i>	<i>ksi/ksa</i>
‘wear’	<i>ls</i>	<i>lssa</i>	<i>lsi/lsa</i>
‘kill’	<i>nk</i>	<i>nqqa</i>	<i>nki/nka</i>
‘spend the night’	<i>ns</i>	<i>nssa</i>	<i>nsi/nsa</i>
‘cook’	<i>nw</i>	<i>ngg^wa</i>	<i>nwi/nwa</i>
‘be hot’	<i>rk</i>	<i>rqqqa</i>	<i>rki/rka</i>
‘laugh’	<i>ts^f</i>	<i>ts^fs^fa</i>	<i>ts^fi/ts^fa</i>
‘sew, weave’	<i>zd^f</i>	<i>zt^ft^fa</i>	<i>zd^fi/zd^fa</i>
‘lose’	<i>zl</i>	<i>zlla</i>	<i>zli/zla</i>
‘squeeze’	<i>z^fm</i>	<i>z^fmma</i>	<i>z^fmi/z^fma</i>

$$(5.100) \quad C_1C_1C_2 \rightarrow C_1C_1C_2\mathbf{C}_2\mathbf{A}$$

	AOR	IPFV	PFV
‘break’	<i>rrz^f</i>	<i>rrz^fz^fa</i>	<i>rrz^fi/rrz^fa</i>

$$(5.101) \quad C_1 \rightarrow \mathbf{I}C_1\mathbf{C}_1\mathbf{I}$$

	AOR	IPFV	PFV
‘give’	<i>k</i>	<i>ikki</i>	<i>ki/ka</i>

$$(5.102) \quad C_1C_2C_3C_4 \rightarrow C_1C_2C_3IC_4$$

	AOR	IPFV	PFV
‘listen’	<i>sflɔ</i>	<i>sflid</i>	<i>sflɔ</i>
‘look at’	<i>sksw</i>	<i>sksiw</i>	<i>sksw</i>

$$(5.103) \quad C_1C_2C_3C_4U \rightarrow C_1C_2C_3C_4U$$

	AOR	IPFV	PFV
‘dream’	<i>sbrtu</i>	<i>sbrtu</i>	<i>sbrti/sbrta</i>

$$(5.104) \quad C_1C_2C_3U \rightarrow C_1C_2C_3U$$

	AOR	IPFV	PFV
‘heat up’	<i>šħmu</i>	<i>šħmu</i>	<i>šħmi/šħma</i>

$$(5.105) \quad C_1C_2C_3A \rightarrow C_1C_2C_3A$$

	AOR	IPFV	PFV
‘ask’	<i>sqsa</i>	<i>sqsa</i>	<i>sqsi/sqsa</i>

The Imperfective is usually preceded by particles which will be illustrated in the next chapter.

§5.2.3.2 Imperfective Imperative

This verbal form differs from the Imperative built on the Aorist stem for it brings about an iterative reading, i.e. the speaker orders the hearer to carry out some action on a habitual basis.

There exist several ways of modifying the basic Imperative stem to derive the Imperfective Imperative. These essentially mirror the formation of the Imperfective stem out of the Aorist, as detailed above. The following table provides just a few illustrative examples:

(5.106) Formation of the Imperfective Imperative

	IMP	IPFV.IMP
‘send’	<i>azn</i>	<i>ttazn</i>
‘step on’	<i>akl</i>	<i>ttakl</i>
‘leave, drop’	<i>adʒdʒ</i>	<i>ttadʒdʒa</i>
‘find’	<i>af</i>	<i>ttafa</i>
‘pour’	<i>frrɛ</i>	<i>ttfrraɛ</i>
‘start’	<i>bdu</i>	<i>bddu</i>
‘plough’	<i>krz</i>	<i>krrz</i>
‘throw’	<i>gr</i>	<i>ggar</i>

The morphological difference between Imperfective Imperative and Imperfective stem consists in the fact these two categories select two different sets of endings: the ones used by the Imperfective Imperative are described in the section on the basic Imperative (§5.2.1.1).

§5.2.3.3 *Negative Imperfective*

The Negative Imperfective is not universally attested across Berber (Basset 1952: 14). However, it is found in a number of Moroccan dialects, such as the one spoken in Figuig (Kossmann 1997). Investigation of the corpus and data from questionnaires indicate that no separate Negative Imperfective stems exist in Ayt Atta Tamazight, which means that the Imperfective stem is used in negative clauses as well.

§5.3 **Other verbal forms**

This section provides a short overview of other verb categories attested in Ayt Atta and other Berber varieties.

§5.3.1 Participle

The so-called *participle* is attested in most Berber languages.¹⁰⁴ It shows a variety of forms built on each of the stems described in this chapter and is characterised by limited agreement, or absence thereof. This form is used in several constructions, such as relative clauses and focus constructions.

A cross-linguistic survey of Berber languages shows that these differ as to their agreement properties in the participial form. Person agreement never occurs: this is the main feature distinguishing the participle from the other fully-inflected verb forms.

Some dialects show both gender and number agreement, Tuareg being the dialect with the richest agreement: there are three participial forms, with gender distinguished in the plural but neutralised in the singular.

Other dialects neutralise gender distinction both in the singular and the plural but still distinguish number. This construction is not productive in AAT, which only shows some residual traces of it; in particular, there are a few fossilised plural participles, such as *jadʹnin* ‘other’, which is found alongside singular form *jadʹn*, without any meaningful difference between them:

- (5.107) *jan* *wfsi* *j-adʹn*
 DET.M DS-bush PTCP-other- PTCP
 ‘another bush’

- (5.108) *ad=ak* *asj-k* *nkk* *t-a-mlal-t*

¹⁰⁴ A couple of noteworthy exceptions are Siwi (Souag 2010:43, 269-270) and the Libyan dialect spoken on the Jebel Nafusa (Beguinet 1931:152; Souag 2010:270): both dialects have reportedly lost the participial form. In these dialects, Arabic structures have replaced the Berber ones in the contexts where participles were used (relative clauses).

TAM = 2SG.M.DAT take.AOR-1SG 1SG F-AS-gazelle-F
t-asj-t *kjj* *aj = nnaκ* *akk^w* *j-ad^ɛ-nin*
 2SG-take.AOR-2SG 2SG.M REL = MED all PTCP-other-PTCP.PL
 ‘I am going to take the gazelle, you take everything else’

Finally, some varieties push syncretism even further, showing an invariable participial form, i.e. a participial form which lacks all agreement. Aside from the fossilised forms given above, Ayt Lfrsi Tamazight may be said to belong here. Some examples of participial constructions are provided below:

(5.109) *kjj* *d = mi* *aj* *j-dda-n*
 2SG.M COM = Q REL PTCP-go.PFV-PTCP
 ‘Who did you go with?’

(5.110) *aslid* *as^ɛnat* *j-ga-n* *lɜum^ɛ* *n-dda*
 before yesterday PTCP-be.PFV-PTCP Friday 1PL-go.PFV
 ‘The day before yesterday being Friday, we went’

Here, the participle shows the form *jgan*, which is invariable.

The following example is interesting as it shows two participles, namely a Perfective form used in declarative clauses and its negative counterpart:

(5.111) *n-qqim* *ar* *n-tɛawad* *aj = nnaκ* *majd = aκ*
 1PL-stop.AOR TAM 1PL-tell.IPFV REL = MED Q.REL = 1PL.DAT
j-ɜ^ɛr^ɛa-n *majd* *ur = aκ* *j-ɜ^ɛr^ɛi-n*
 PTCP-happen.PFV-PTCP Q.REL NEG = 1PL.DAT PTCP-happen.NPFV-PTCP
 ‘We started to talk about what had happened to us, what had not happened to us’ (= ‘about this and that’)

The form *jɜʳʳan* is used in a non-negative context, whereas the form *jɜʳʳin* is used in the negative clause that follows.

§5.3.2 *Derived forms*

Berber has some derivational processes for the expression of causation, reciprocity, and passivisation. These three derived forms are all produced by prefixation.

§5.3.2.1 *Causative verbs*

There is a morphological way of expressing causation in Ayt Atta Tamazight, which consists in prefixing *s-* (or its phonologically-conditioned allomorphs: e.g. *z* and *ʃ*; cf. §2.4.2) to the verb root. This morpheme is an Afroasiatic causative prefix, as it is found in other languages of the same language phylum, including Semitic, Ancient Egyptian, Cushitic, and Omotic (Cohen 1988a: 22-23).¹⁰⁵

The formation of the Causative is often achieved by mere prefixation of the sibilant marker, as the following AAT data show:

- (5.112) *muttr-n* *irukud-n*
 be_tidy.PFV-3PL.M tool-PL
 ‘The tools are tidied up’

- (5.113) *j-s-muttr* *irukud-n*
 3SG.M-CAUS-be_tidy.PFV tool-PL
 ‘He tidied up the tools’

And below:

¹⁰⁵ Cf. similar data in Ighchan Tashlhiyt (Galand 1988: 234), and in Northern Tamazight (Penchoen 1973: 44ff.).

- (5.114) *j-ħma* *w-ataj*
 3SG.M-be_hot.PFV DS-tea
 ‘The tea is hot’

- (5.115) *j-s-ħma* *Ø-ataj*
 3SG.M-CAUS-be_hot.PFV AS-tea
 ‘He heated up the tea’

However, the prefixation of the sibilant marker is often accompanied by stem changes:

- (5.116) *j-ffk* *igdi*
 3SG.M-go_out.PFV dog
 ‘The dog went out’

- (5.117) *j-ssufk* *igdi*
 3SG.M-CAUS.go_out.PFV dog
 ‘He made the dog go out’

In (5.117), the pattern used by the Causative verb differs from the one of the basic Perfective verb form.

§5.3.2.2 Reciprocal verbs

Verbs with reciprocal or reflexive meaning are formed by prefixing a nasal sound, usually *m* but *n* is also attested.¹⁰⁶ The following data is from Ayt Lfisi Tamazight:

¹⁰⁶ This is possibly “from dissimilation of *m*- before roots containing a labial” (Souag 2010: 358), idea taken from Chaker (1995: 277).

(5.118) *iwɫ-n*

marry.PFV-3PL.M

‘They got married / they are married’

(5.119) *mjawal-n*

RECP.marry.PFV-3PL.M

‘They got married / they are married (to each other)’

As in the case of causative verbs, a different pattern from the one attested in the basic form can be noticed.

§5.3.2.3 *Passive verbs*

Passive verb forms are usually construed by prefixation of *-ttw*, as in *jttwassan* ‘it is known’ (from the verb *ssn* ‘to know’). There is an important difference between the meaning of Passive verb forms and the stative reading expressed by verbs ambiguous between a stative and a change-of-state interpretation: the latter is incompatible with the notion that someone caused the change of state, whereas the former yields such an interpretation. This is shown in what follows:

(5.120) *t-a-mtʰtʰu-t* *t-bbj* *a-χrruq*

F-AS-woman-F 3SG.F-tear.PFV AS-cloth

‘The woman, she cut the cloth’

(5.121) *j-bbj* *w-χrruq*

3SG.M-tear.PFV DS-cloth

‘The cloth is torn’

- (5.122) *j-ttjabbaj* *w-χrruq*
 3SG.M-PASS.tear.PFV DS-cloth
 ‘The cloth was torn’

The data shows that two intransitive clauses are possible, the first one having stative meaning (*jbbi wχrruq*) and the second one introducing the idea that the cloth has been torn, although the agent is omitted. In particular, the clause given in (5.121) is particularly interesting; this is shown in the following section.

§5.3.3 Valency-changing strategies

A large set of Berber verbs are valency-neutral, in that the same form is used in both intransitive and transitive clauses (Souag 2010a: 358). These are also known as ‘ambitransitive’ or ‘labile’ verbs, in the literature (Dixon 1994; Dixon & Aikhenvald 2000).

Different types of ambitransitive verbs are attested in the literature. Adopting terminology from Dixon (1994), ambitransitive verbs may be of either S = A type or S = O type. The S = A type includes verbs whose use in transitivity alternations shows a correspondence between an S (i.e. intransitive subject) and an A (i.e. transitive subject). The S = O type includes verbs whose use in transitivity alternations show a correspondence between an S (i.e. intransitive subject) and an O (i.e. transitive object).

Both S = A and S = O ambitransitive verbs are attested in Ayt Atta Tamazight and in other Berber varieties. The first type includes verbs which may omit their object, such as *tʃ* ‘to eat’. Intransitive constructions omitting the object have been referred to as ‘objectless antipassives’ in Berber literature (Heath 2005: 574-75).

The most interesting type of ambitransitive verbs is the one showing S=O correspondence. These verbs are commonly found across Berber. This type is attested in Tamashek Tuareg, where it has been analysed as having ‘agentless (medio-)passive’ function (Heath 2005: 574).

A partial list of ambitransitive verbs in Kabyle is found in Chaker (1983: 300-01), which mentions the existence of some 250 verbs with similar behaviour. Interestingly, these verbs do not belong to the sole Berber lexical stock but also include a large amount of items borrowed from Arabic and a few items of French origin (1983: 301).

This phenomenon is reminiscent of the contrast between active voice and medio-passive construction in English, as seen in the sentences ‘the man broke the window’, vs. ‘the window broke’, respectively. However, both of these English examples involving S=O alignment have a dynamic interpretation: this is reportedly not the case with S=O alignment in Berber, since the intransitive clause and its transitive counterpart are said to have stative and dynamic value, respectively (Kossmann 1997: 352).

The following Ayt Atta Tamazight clauses show a dynamic/stative alignment:

(5.123) *j-bbj* *w-rjaz* *a-χrruq*
 3SG.M-tear.PFV DS-man AS-cloth
 ‘The man tore the cloth’

(5.124) *j-bbj* *w-χrruq*
 3SG.M-tear.PFV DS-cloth
 ‘The cloth is torn’

These alternations are further discussed in §8.1.1.3.2.

This brief discussion of valency-changing strategies concludes the chapter on AAT verbal morphology. The next chapter is devoted to an overview of the syntax.

Chapter 6

Syntax

The syntax of Berber languages shows some overall unity, as many of the characteristics to be sketched below are found across the family. However, there are certainly some noteworthy differences which are found at all syntactic levels.

This chapter provides an illustration of Ayt Atta syntax, indicating some similarities and differences between this variety and the rest of Berber. The section is organised as follows: the syntactic properties of phrases and clauses are discussed in §6.1 and §6.2, respectively; information structure and its syntactic effects are discussed in §6.3; finally, §6.4 provides an illustration of several types of complex clauses.

§6.1 Phrasal Syntax

This section describes simple and complex phrases in Ayt Atta.

§6.1.1 Simple phrases

The simple phrases illustrated in this section include noun phrases and prepositional phrases.

§6.1.1.1 Noun Phrases

There are several types of noun phrases. The simplest phrase is formed by an independent personal pronoun (the list of pronouns was given in §3.1) or by a single noun (whose features were introduced in §3 and will be further illustrated below).

There exist more complex noun phrases such as numeral phrases and adjectival phrases. The properties of numeral phrases are illustrated in §3.3, where they are analysed as a subgroup of noun phrases. The properties of adjectival phrases are illustrated in what follows.

Berber has a set of noun-like adjectives which are used with an attributive function, in that they modify a noun within a noun phrase.¹⁰⁷ They are regarded as a subclass of nouns, since they show number and gender agreement with the noun they modify, although they always appear in the absolute state whenever following a noun. This is seen in the following examples:

- (6.1) *j-lla* *w-rba* *a-mz^sz^san*
 3SG.M-be.PFV DS-boy AS-little
 ‘There is/was a little boy’

- (6.2) *annaj-k* *jat* *t^st^sunubil* *t-a-χatar-t* *t-a-mllal-t*
 see.PFV-1SG DET.F car(F) F-AS-big-F F-AS-white-F
 ‘I saw a big white car’

¹⁰⁷ These adjectives do not have a predicative function, since quality/stative verbs are used instead. Such stative verbs are not formally distinct from other verbs. These are regarded as verb-like adjectives in the literature (Dixon & Aikhenvald 2004).

However, adjectives do undergo state alternations, but only in the event they head a noun phrase. This situation is similar to the one attested in Figuig (Kossmann 1997: 242).

The attributive function can also be realised in another way in Berber, that is by placing a relative clause after the noun it modifies (cf. in §6.4.2.3).

§6.1.1.2 Prepositional phrases

Two sets of prepositions can be identified in Ayt Atta on the basis of some morphosyntactic properties. Most prepositions require the noun which follows to be in the dependent state (cf. §3.2.3). An example is given in what follows:

- (6.3) *j-lla* *iffu* *kur* *w-mzil*
 3SG.M-be.PFV Ichou by DS-blacksmith
 ‘Ichou is at the blacksmith’s’

The example shows that the word for ‘blacksmith’ (absolute state: *amzil*) appears in the dependent state after the preposition *kur*. The same behaviour occurs with the preposition *g* ‘in, at’, which also requires the dependent state:

- (6.4) *j-lla* *iffu* *g* *t-Ø-mazir-t*
 3SG.M-be.PFV Ichou in F-DS-village-F
 ‘Ichou is in the village’

Another set of prepositions shows a different behaviour, in that they take nouns in the absolute state instead. This phenomenon is attested across Berber and these are analysed as ‘preposition-like particles’ (cf. Heath 2005); this is seen below:

- (6.5) *j-safr* *ar* *t-a-mazir-t*
 3SG.M-travel.PFV up_to F-AS-village-F
 ‘He travelled up to the village’

In this example, the preposition *ar* ‘up to, until’ is followed by a noun in the absolute state.

A list of prepositions is given in the table below. This includes information about whether a preposition requires the absolute state or the dependent state. When two prepositions are given in the same cell, the first one is used with nouns and the second one with pronouns.

- (6.6) Simplex prepositions followed by nouns in the dependent state

<i>d / id</i>	‘with’ (COM)	<i>nil</i>	‘opposite’
<i>d^ʕar^ʕt / d^ʕar^ʕ</i>	‘behind’	<i>nnig</i>	‘over’
<i>dat</i>	‘before, ahead of’	<i>kf / kif</i>	‘over, above’
<i>ddaw</i>	‘under, beneath’	<i>kur</i>	‘by, at’
<i>g / dig</i>	‘in, at’	<i>s / is</i>	‘with’ (INS)
<i>i</i>	‘to’	<i>sig</i>	‘from, during’
<i>n</i>	‘of’	<i>z^ʕar</i>	‘by, at, to’

- (6.7) Complex prepositions followed by nouns in the dependent state

<i>afla n</i>	‘above’
<i>agnsu n</i>	‘inside’
<i>izdar n</i>	‘under’
<i>iwrinn i</i>	‘on the other side of’

- (6.8) Simplex prepositions followed by nouns in the absolute state

<i>ar</i>	‘until, up to’
<i>s</i>	‘towards’
<i>war/tar</i>	‘without’

§6.1.2 Complex phrases

The complex phrases described in this section include structures which possess more than one head of the same syntactic level. The focus is on different types of phrasal coordination.

§6.1.2.1 Phrasal coordination

Phrasal coordination is expressed with the comitative preposition *d* ~ *id* in most Berber varieties, e.g. in Awjila (cf. van Putten 2013: 165).

Ayt Atta expresses phrasal coordination along the same lines. Phrasal coordination does not trigger plural agreement on the verb, as the following example shows:

- (6.9) *j-nna=s* *j-nkr* *ja-n* *w-rjaz*
 3SG.M-say.PFV = 3SG.DAT 3SG.M-get_up. PFV DET.M DS-man
d *ja-t* *t-Ø-mt^ʃt^ʃu-t* *mjawal-n*
 COM DET.F F-DS-woman-F marry.PFV.RECP-3PL.M
 ‘(So does the story go) there was a man with his wife, they were married’

In (6.9), the verb *jnkr* ‘he got up’ agrees in gender and number with the first phrase (*jan wrjaz* ‘a man’).

§6.2 Clausal Syntax

After having analysed phrasal structure, it is now time to analyse more complex constructions, starting from clausal syntax.

§6.2.1 Nominal clause and verbal clause

The nominal clause is formed by two elements, namely a subject and a copula complement. A third element, functioning as a copula, may optionally be present.¹⁰⁸

Dialects show some variation as to whether they allow for a zero-copula construction or not. Ayt Lfrsi Tamazight does allow for it:

- (6.10) *t-a-ddk* *t-ilfaza*
 F-SG-PROX F-television
 ‘This is a television’

- (6.11) *jusf* *kur-k?*
 Yousef by-2SG.M
 ‘Is Yousef with you?’

Berber languages also allow for the copula to be expressed: this can then be realised as either the invariable particle *d*, juxtaposed between subject and copula complement, or a proper verb, one whose morphosyntactic properties do not differ from those of other verbs: the verb appears in clause-initial position and may be inflected just like any other verb.

The copula *d* in Ayt Lfrsi Tamazight does not seem to be attested, at least synchronically.¹⁰⁹ On the other hand, the second type does exist: the fully-inflected verb *g* is usually translated into English in a variety of ways, including ‘to be’, ‘to do’, and ‘to make’.

¹⁰⁸ Terminology used by Dixon (2010).

¹⁰⁹ However, some traces of it might be possibly found in the question particle *idd*, which is followed by nouns (cf. Ayt Taghbalte *is d*, as in *is d idrimn?* ‘Is it money?’, SIOu, p.c.).

As for the verbal clause, it shows inflected verbs whose morphology was described at length in chapter 5.

§6.2.2 Grammatical functions

The only grammatical function cross-referenced on the verb is the subject. The subject may also be realised as a full noun phrase or as a pronoun, neither element being obligatory present. The *object* and the *indirect object* may be realised either as a noun phrase and as a prepositional phrase, respectively, or as pronominal clitics. Clitic doubling with indirect objects is also widely attested.

Section §3.2 showed that, in basic declarative verbal sentences,¹¹⁰ a noun functioning as the subject is formally distinct from one having object function, the two relations appearing in the *dependent state* and the *absolute state*, respectively:

- (6.12) *j-dda* *w-mddakk^{wl}-inw* *s* *tinghir*
 3SG.M-go.PFV DS-friend-1SG.POSS to Tinghir
 ‘My friend went/has gone to Tinghir’

On the other hand, all nouns are in the absolute state in nominal sentences:

- (6.13) *w-a-ddk* *a-mddakk^{wl}-inw*
 M-SG-PROX AS-friend-1SG.POSS
 ‘This is my friend’

A noun functioning as an indirect object is in the dependent state too, preceded by a preposition:

¹¹⁰ Information structure affects the formal properties of the subject, which appears in the absolute state when topicalised (i.e. in preverbal position).

- (6.14) *j-ka=s* *t-a-rzzif-t* *i* *w-rjaz-indk*
 3SG.M-give.PFV = 3SG.M.DAT F-AS-gift-F to DS-man-DIST
 ‘He gave/has given the gift to that man’

Whenever an object and an indirect object clitic are present in the clause, the latter precedes the former:

- (6.15) *j-ka=s=ttit*
 3SG.M-give.PFV = 3SG.DAT = 3SG.F.ACC
 ‘He gave/has given it (F) to him/her’

The clitic’s vowel merges with the final vowel of Perfective form *jka* in this example.

The use of indirect-object clitics is much more widespread than argument structure requirements would imply. This is for two reasons, namely the phenomenon of clitic doubling and the presence of ethical datives.

Ayt Atta (like many other Berber varieties) allows for clitic doubling: syntactic information may be simultaneously expressed by both a full noun phrase and a clitic.¹¹¹ Clitic doubling is very common with verbs such as *ini* ‘say’ and *k* ‘give’. An example of clitic doubling is provided in (6.16):

- (6.16) *j-ka=s=ttit* *i* *w-rjaz-indk*
 3SG.M-give.PFV = 3SG.DAT = 3SG.F.ACC to DS-man-DIST
 ‘He gave/has given it (F) to that man’

¹¹¹ Clitic-doubling is widespread in Berber dialects, which however differ as to the extent they allow it. An interesting case is Siwi, which has obligatory indirect-object but not direct-object clitic doubling (Souag, p.c.).

The clause shows that the indirect object *i wrjaz indk* is doubled by the indirect object clitic.

As for ethical datives, these are constructions where an affected participant is introduced in the clause, despite the fact that the predicate does not subcategorise for it. Ethical datives are widely used in AAT. An example is provided below:

- (6.17) *j-mmut=as* *lbatri*
 3SG.M-die.PFV = 3SG.DAT battery
 ‘The battery died (to it)’

In (6.17), the affected participant was a mobile phone, whose battery had run flat.

Both direct object and indirect object clitics are analysed as clitics rather than affixes, in that, although they are postverbal in basic declarative clauses, they appear in pre-verbal position under circumstances to be illustrated in §6.2.4: for this reason, these clitics are also referred to as *satellites* (Collins 1981). Their behaviour sets them apart from subject-agreement markers which are always affixed onto verbs.¹¹²

§6.2.3 Basic declarative clauses

The verb appears in clause-initial position in basic declarative (verbal) clauses; when full NPs appear in the clause, the subject precedes the object, yielding VSO constituent order:

¹¹² A noteworthy exception is Siwi, where the indirect and the direct object pronominal markers should be regarded as affixes rather than clitics, since they never abandon their post-verbal position. This is attested in other eastern Berber dialects, those spoken in Awjilah and El-Fogaha (Souag 2010:48).

- (6.18) *j-wt* *w-rjaz* *a-rba-nns*
 3SG.M-hit.PFV DS-man AS-son-3SG.POSS
 ‘The man hit/has hit his son’

However, whenever a clause displays a pronominal object and/or a pronominal indirect object, these are cliticised onto the clause-initial verb, which means they precede an optionally-present full-NP subject, rather than follow it:

- (6.19) *j-ka=s=ttit* *w-rjaz-indk* *i* *ħmad*
 3SG.M-give.PFV=3SG.M.DAT=3SG.F.ACC 3DS-man-DIST to Ahmed
 ‘That man gave/has given it (f.) to Ahmed’

The example also shows the phenomenon of clitic doubling, which was briefly illustrated in §6.2.2, above.

§6.2.4 TAM particles

Berber dialects make use of a number of pre-verbal particles which combine with verbal forms to express TAM-related distinctions. A detailed list of all these particles is provided below, whereas more information on their functional value is provided in Part 2.

These particles have a significant role syntactically, in that their presence affects the order of constituents in the clause: pronominal arguments (including prepositional ones), ethical datives, and directional particles are realised immediately after the TAM particle, i.e. they are attracted to preverbal position. This is shown in the following examples:

- (6.20) $j\text{-}\chi s^{\text{f}}s^{\text{f}}a=k$ ad $t\text{-}uru\text{-}t$ $nimra$
 3SG.M-need.PFV = 2SG.M.DAT TAM 2SG-write.AOR-2SG number
afad ad t-χdm
 PURP TAM 3SG.F-work.AOR
 ‘You need to write the number in order for it to work’
- (6.21) $ad=ak$ $asj\text{-}\kappa$ nkk $t\text{-}a\text{-}mlal\text{-}t$
 TAM = 2SG.M.DAT take.AOR-1SG 1SG F-AS-gazelle-F
 ‘I am going to take the gazelle’

In (6.20), the indirect object *(a)k* appears in postverbal position, following a Perfective verb form. The same indirect object appears preverbally in (6.21) due to the presence of a preceding TAM particle.

This phenomenon is commonly attested across Berber, although some exceptions exist. For instance, the future clitic *a=* does not trigger clitic movement in Awjila Berber, as the following example shows (van Putten 2014: 165):¹¹³

- (6.22) *a = fk-à = k* *azìt* *id = təlàba* *yar*
 FUT = give.FUT-1SG = IO.2SG.M donkey with = gown but
fədd *idd-i* *ar = əlqàdī*
 go.IMP with-1SG to = judge
 ‘I will give you a donkey and a gown, but you have to go with me to the judge’

As (6.22) indicates, the indirect object *k* follows the verb in spite of the presence of the clause-initial future clitic *a =*.

¹¹³ Glossing is van Putten's; slightly adapted to the graphic conventions adopted in the present work.

The TAM particles attested in Ayt Lfrsi Tamazight are briefly sketched in what follows.

§6.2.4.1 *ad*

A particle introducing verb forms which may possibly be defined as *irrealis*: the particle is frequently used to introduce subordinate clauses, but its use does not seem to be limited to that syntactic environment; main clauses introduced by *ad* also exist, as shown in (6.23):¹¹⁴

- (6.23) *ad ini-ɛ?*
 TAM say.AOR-1SG
 ‘Shall I say (it)?’

Here *ad* is used by an elderly woman who is about to start narrating a folktale.

§6.2.4.2 *ra(d)*

This particle represents the outcome of the grammaticalisation of the verb *iri* ‘to want’ whose fully-inflected PFV forms can alternatively be used, possibly yielding some difference in meaning.

The grammaticalisation process is rather transparent and speakers readily recognise the lexical source of particle *rad*. Similarly to what happens with many other grammaticalised forms across Berber, it seems that it is the person-marking prefix which has been dropped in the course of the phonological simplification of the item being grammaticalised.

¹¹⁴ See chapter 9 for further comments on this particle.

- (6.24) *ra ddu-k i ssuq*
 TAM go.AOR-1SG to market
 ‘I will go to the market’

- (6.25) *ri-k a ddu-k i ssuq*
 want.PFV-1SG TAM go.AOR-1SG to market
 ‘I want to go to the market’

§6.2.4.3 *da*

This particle is used in combination with Imperfective verb forms, where it introduces habitual or ongoing events, the latter only with present-time reference:

- (6.26) *da=k ttini-n ajt llik ddaḡg rad*
 TAM=2SG.M IPFV.say-3PL.M people[PL] past when TAM
ini-n lqist s t-afuj-t ini-n=ak
 say.AOR-3PL.M story(F) with F-sun-F say.AOR-3PL.M=2S.M
sɣll-k ur ttgga-n w-arraw=inw
 swear.PFV-1SG NEG be.IPFV-3PL.M DS-children[PL]=1SG.POSS
i-mɜɜʔadʕ
 PL-bald.PL
 ‘In the past people used to say when they wanted to tell a story in the daytime, they would say: “I swear so that my children do not become bald”’

§6.2.4.4 *ar*

This particle may be used in combination with Imperfective verb forms. The following example shows that it can host clitics:

- (6.27) *ar=as j-ttini lfiḥat s lfiḥat*

TAM = 3SG.DAT 3SG.M-say.IPFV joy with joy
 ‘He starts saying to him “Oh joy with joy!”’

Various meanings have been assigned to it in the literature. In the following two examples, it seems to allow for a progressive and a durative interpretation, respectively:

(6.28) *j-af=nn ja-n w-mkar*
 3SG.M-find.AOR = ITV DET.M DS-old_man
fat ar j-ttzzu dllh
 PRES TAM 3SG.M-sow.IPFV watermelon
 ‘He bumped into an old man, he was sowing watermelons’

(6.29) *jan bnadm ar j-ttdza t-i-flu-t*
 DET.M person TAM 3SG.M-knock.IPFV F-AS-door-F
 ‘A man, he knocked on the door (several times)’

§6.2.4.5 *mħra* (*imħra*)

The variant *mħra* is more widespread, although *imħra* is attested as well. They are used in combination with Perfective forms in order to introduce newly-occurred (i.e. immediate past) events (cf. English ‘just’):

(6.30) *t-a-kat^ʔt^ʔ-t mħra t-urw*
 F-AS-goat-F TAM 3SG.F-give_birth.PFV
 ‘The she-goat, she has/had just given birth’

§6.2.4.6 *allig*

Found in combination with Perfective forms, it often introduces the final event in a chain, the event which marks some conclusion to a preceding sequence of situations, as in the following examples:

- (6.31) *allig urw-n sin ifirran*
 TAM give_birth.PFV-3PL two.M children
 ‘Till they had two children’

- (6.32) *allig = nn j-gula a-mazir allig*
 TAM = ITV 3SG.M-arrive.PFV AS-village TAM
han takat^ʔt n iz^ʔiwijn t-gula t = id
 PRES Taghaṭṭ n Izewiyin 3SG.F-arrive.PFV 3SG.M.ACC = VNT
 ‘Until he arrived at the village, until there you have Taghaṭṭ n Izewiyin, she had arrived there (too)’

The TAM particle *allig* is probably resulted from the formal conflation of two particles, namely *ar* and *llig*. Its semantics reflects this: on the one hand, the particle is used in order to assign a final boundary to some previous situation (compatibly with the boundary-encoding meaning of preposition *ar*); on the other hand, it also situates the event at a definite past-time location on the time axis, in keeping with the past-time reference of particle *lli(ɛ)*.

§6.2.4.7 *g*

In spite of the apparent similarity between this particle and *allig*, particle *g* seems to differ from *allig* in both distribution and function: first, it is preferably used after an *allig*-marked situation, in order to introduce one or more situations following the one

that *allig* marks; furthermore, it seems to have a somehow stative meaning, as opposed to *allig* which pushes narration time forward

- (6.33) *allig* *j-mmut* *bba-nsn* *g*
TAM 3SG.M-die.PFV father-3PL.M.POSS TAM
j-kka *tlt* *jjam* *g = as*
3SG.M-pass.PFV three day[PL] TAM = 3SG.DAT
ga-n *s^hadaqa*
do.PFV-3PL.M şadaqa
‘Till when their father died, and the third day (after that) went and they did
şadaqa for him’

The difference between *allig* and *g* is probably due to the fact the latter is less complex than the former: arguably, particle *g* is one of the components of the complex particle *allig*, namely the one assigning a definite position on the time axis. The properties shown by *g* probably stem from its locative-preposition function (cf. preposition *g* ‘in, at’).

§6.2.4.8 *qad* / *qannad*

These particles are used in combination with Aorist or Imperfective verb forms in order to express simple future and durative future events, respectively. They seem to differ in terms of mood: the latter has a higher assertive function, being used for possibilities conceived of as being of certain realisation; use of the former expresses some uncertainty as to the realisation of the situation expressed by the predicate.

§6.2.4.9 *nna*

This particle is used in negative clauses to deny the possibility of future scenarios. The particle seems to derive from the grammaticalisation of the PFV form of the verb *ini* ‘to say’: this is shown by fact that the verb’s fully-inflected PFV forms can alternatively be used, although some meaningful difference might exist. A more detailed discussion is provided in §9.1.3.

§6.2.5 *Negative particles*

The number and position of negators indicate the stage reached by languages on what is known as Jespersen’s Cycle, which consists in the evolution of negative structures from the initial use of a preverbal negator to the eventual use of a postverbal negator, after a stage in which a discontinuous morpheme of negation is present (Lucas 2007: 398). The entire process from Stage I to Stage III has been accomplished in spoken French but is also attested in the Arab world, e.g. Palestinian Arabic, where negation is (optionally) marked with postverbal –š only (Lucas 2007: 400).

Stage III is not found in Berber. However, some Berber dialects display discontinuous negation, i.e. stage II: e.g. in Kabyle, the preverbal negative particle *ur* is obligatorily accompanied by the postverbal particle *ara* (Boumalk 1996: 36).

As for Ayt Atta Tamazight, the negator *ur* is realised in preverbal position and no discontinuous negation seems to be attested. This particle has the same effect on constituent order as above-described TAM particles, as it determines the realisation of clitics in preverbal position. This is shown in the following two examples:

- (6.34) *ur=as* *t-κij-m*
 NEG = 3SG.DAT 2PL.M-can.NPFV-2PL.M
 ‘You (pl.) can’t (do it)’

- (6.35) *ur=i* *j-ukiz*
 NEG = 1SG.ACC 3SG.M-recognise.NPFV
 ‘He did not/has not recognised me’

Whenever a TAM particle co-occurs with a negative one, the latter precedes the former. This is seen below:

- (6.36) *ur* *da* *j-χddm*
 NEG TAM 3SG.M-work.IPFV
 ‘He/it does not work’

Discontinuous negation does not seem to be attested in Ayt Atta, although it is reportedly optionally found in other Moroccan dialects (Boumalk 1996: 36; the following example, given by Boumalk, is adapted from Lucas 2007: 400):¹¹⁵

- (6.37) *ur* *j-ffiy* *fa*
 NEG 3SG.M-exit.NPFV NEG
 ‘He didn’t go out’

There are other types of negators which have scope over different constituents. A couple of words used in non-verbal predication are *laħ* and *walu*, which seems to have the same meaning. An example of the former is provided below:

¹¹⁵ In Zemmur, a northern Tamazight dialect, this second particle precedes the negative particle proper, instead (Durand 1998: 123)

- (6.38) *laħ awd jan*
 NEG also one
 ‘There is nobody’

The properties of these words are investigated in Berber literature for both diachronic and synchronic reasons. The remarkable observation is that *laħ*, *walu*, and several other such particles are followed by direct object clitics, and this has been seen as providing supporting evidence for the presence of split-ergativity in the morphological system of Berber (Aikhenvald 1995).

One more indefinite negative pronoun which is worth mentioning here is the word *awdħaħ* ‘nothing’. Finally, *amr* is used in combination with Negative Perfective verb forms to introduce counterfactual hypotheses.

§6.3 Information structure

Information structure plays an important role in Ayt Atta Tamazight morphosyntax, since it impacts on both the order of constituents and their morphological realisation.

§6.3.1 Topicalisation

Topicalisation in Ayt Atta Tamazight is achieved by placing the sentence topic in utterance-initial position, thereby contrasting with the usual VSO constituent order found in basic declarative clauses. If the topic is a noun, it will always be in the absolute state (cf. §3.2.3):

- (6.39) *a-qqɜiɜ* *ur* *t-ssin-t* *majd* *j-ga-n*
 AS-aqqɜiɜ NEG 2SG-know.NPFV-2SG Q.REL PTCP-be.PFV-PTCP
iks
 AS.bone
 ‘*Aqqɜiɜ*. don’t you know what it means? (it means) bone’

In (6.39), the topicalised noun appears in the absolute state.

§6.3.2 Focus constructions

Focus constructions single out the new piece of information provided by the utterance. Focus constructions in Berber share some structural features with relative clauses.

A focus construction is construed by placing the item in focus in clause-initial position; this is followed by the relativiser *aj*, which can in turn be followed by a demonstrative particle, a participial form, or a fully-inflected verb form.

Demonstrative particles are used in verbless clauses, i.e. whenever the information which is focused upon simply identifies a participant either in the visual field in which the interaction takes place or a referent in discourse:

- (6.40) *wa-nnaɕ* *a-nugudʰ*
 DEM.M-MED AS-lamb
 ‘That’s a lamb’

- (6.41) *a-nugudʰ* *aj-nnaɕ*
 AS-lamb REL-MED
 ‘A lamb, that’s what it is’

§6.3.3 Interrogative clauses

Interrogative clauses are introduced by a number of interrogative particles. What follows briefly sketches yes/no questions and content questions.

§6.3.3.1 Yes/no questions

The particle *is* functions as a complementiser but is also used to mark yes/no questions. Sometimes speakers omit it, with the task of expressing interrogation accomplished by intonation:

- (6.42) *is j-lla w-ksum n w-nugud^f?*
 Q 3SG.M-be.PFV DS-meat of DS-lamb
 ‘Is there lamb meat?’

Another interrogative particle attested in this variety is *idd*.¹¹⁶ This particle seems to be preferably used in nominal clauses (i.e. clauses lacking a verb). A couple of examples are provided below:

- (6.43) *idd wi-nnk mid wi-nw*
 Q PRO-2SG.M.POSS or PRO-1SG.POSS
 ‘Is it yours or mine?’

- (6.44) *j-kal idd i-drim-n*
 3SG.M-think.PFV Q PL-money-PL
 ‘He thought that (it was) money’

¹¹⁶ This particle is likely to derive from *is d*, which is found elsewhere in the region, e.g. in Ayt Taghbalte (SI Ou, p.c.).

§6.3.3.2 Content questions: *wh*-words

Content questions are introduced by a number of *wh*-words. These include *ma*, *maj(d)*, *matta*, *mani*, *mi*, *maɣ* / *maɣ allig*, *mantur* ‘when’ Similarly to TAM, negative, relative, and other interrogative particles, the use of these *wh*-words triggers clitic attraction, i.e. one or more clitics are attached to the initial head.

§6.3.3.2.1 ‘*ma*’

Particle *ma* is the most common *wh*-particle. It is usually followed by prepositions having either locative or dative function, depending on a verb’s argument structure.

Some examples are provided below:

- (6.45) *ma = s j-dda ħmad?*
 Q = to 3SG.M-go.PFV Ahmed
 ‘Where did Ahmed go/is Ahmed going?’

- (6.46) *ma = s t-ddi-t?*
 Q = to 2SG-go.PFV-2SG
 ‘Where are you going? / Where did you go?’

- (6.47) *ma = g t-lli-t?*
 Q = at 2SG-be.PFV-2SG
 ‘Where are you?’

- (6.48) *ma = g j-lla w-frʕʕan n w-brʕum?*
 where = at 3SG.M-be_found.PFV DS-bakery of DS-bread
 ‘Where is the bakery?’

- (6.49) *urs ma=g=nn t-tlha*
 who_knows Q=at=ITV 3SG.F-be_busy
 ‘Who knows where she was busy’

- (6.50) *ma=mi t-ki-t sksu*
 Q=DAT 2SG-give.PFV-2SG couscous
 ‘Who did you give couscous to?’

§6.3.3.2.2 ‘maj(d)’

Another question type employs *ma* in combination with the relativiser *aj(d)*. The resulting complex form *maj(d)* is used in questions whose structure parallels the one found in focus constructions:

- (6.51) *maj t-skar-t a wa*
 Q.REL 2SG-do.IPFV-2SG VOC DEM.M
 ‘What are you doing (you!)?’

- (6.52) *majd j-ga wj-nnaκ?*
 Q.REL 3SG.M-be.PFV DS.REL-MED
 ‘What is that?’

§6.3.3.2.3 ‘matta’

Particle *matta* is used for both ‘who’ and ‘which’ questions. It is found in clause-initial noun phrases which resemble possessive phrases, in that the noun following *matta* is always in the dependent state, although the preposition *n* is never placed between the two elements:

- (6.53) *matta w-ħanu ɛf t-sawal-t?*
 Q DS-room over 2SG-talk.IPFV-2SG
 ‘Which room are you talking about?’

- (6.54) *matta w-ħanu g t-ri-t ad t-gn-t*
 Q DS-room in 2SG-want.PFV-2SG TAM 2SG-sleep.AOR-2SG
 ‘Which room do you want to sleep in?’

- (6.55) *matta* ‘who, which’
matta wa=nn d=j-dda-n?
 who SG.M = DIST VNT = PTCP-go.PFV-PTCP
 ‘Who is it the one who has come?’

§6.3.3.2.4 ‘*mani*’

Particle *mani* is used for ‘where’ questions.¹¹⁷ It is followed by the preposition *g* when the verb *ili* ‘to be, exist’ is used:

- (6.56) *mani abdlħamid?*
 Q Abdelhamid
 ‘Where is Abdelhamid?’

- (6.57) *mani=g j-lla w-frʳʳan*
 Q = at 3SG.M-be.PFV DS-bakery
 ‘Where is the bakery?’

The particle is found in the following idiomatic expression:

¹¹⁷ Penchoen (1973) stated that in Ayt Ndhir Tamazight this particle is only used with animate nouns, but this does not seem to be the case in Ayt Lfrsi.

- (6.58) *mani t-ri-t?*
 Q 2SG-want.PFV-2SG
 ‘Where do you want to go?’

The verb ‘to go’ is missing from the original expression. This question may be uttered in a variety of contexts: it is typically heard whenever bus drivers enquire about the intended destination of some potential passengers who are standing by the road.

§6.3.3.2.5 ‘mi’

Particle *mi* is an indefinite interrogative pronoun. It may be used in isolation, in which case it simply means ‘what?’, although it is frequently found after prepositions, as the following examples show:

- (6.59) *kjj d=mi aj j-dda-n*
 2SG.M COM=Q REL PTCP-go.PFV-PTCP
 ‘You, who did you go with?’

The question word is often used in short verbless clauses following different prepositions:

- (6.60) *d=mi jadʿn?*
 COM=Q other
 ‘What else?’

- (6.61) *kur=mi?*
 COM=Q
 ‘At whose (house)?’

(6.62) *win = mi?*

DEM.M = Q

‘Whose?’

(6.63) *tin = mi aj = a?*

DEM.F = Q REL = PROX

‘Whose is this (F)?’

§6.3.3.2.6 ‘*maɛ*’ / ‘*maɛallig*’

The word *maɛ* and its variant *maɛallig* introduce ‘why’ questions’:

(6.64) *maɛallig da t-alla-t?*

why TAM 2SG-cry.IPFV-2SG

‘Why are you crying?’

Replies to *maɛ*-questions are introduced by *afku* ‘because’.

§6.3.3.2.7 ‘*mantur*’

This question word is used for ‘when’ questions:

(6.65) *mantur aj = di t-aɛul-t?*

Q REL = VNT 2SG-come_back.PFV-2SG

‘When did you come back?’ (lit.: ‘when is it that you came back?’)

§6.4 Complex clauses

This section briefly illustrates coordinated and subordinated structures in Ayt Atta Tamazight.

§6.4.1 Coordination

Clause coordination adopts a variety of strategies across Berber. Some dialects use the same strategy for both clausal and phrasal coordination. This is seen in Figuig, where the coordinator *d*¹¹⁸ (or its variants, such as *aged* and *ayed*) is used with a coordinating function at both the phrasal and clausal level (Kossmann 1997: 339).

Other varieties adopt a similar strategy but employ different particles for these two levels of coordination. In Awjilah, phrasal coordination is expressed by particle *id*, whereas particle *w* (or its variant *~u*)¹¹⁹ is used for clausal coordination (van Putten 2013: 165-66).

The situation displayed by Ayt Atta resembles the one attested in Awjilah in distinguishing the two coordination types, but radically differ from it because of the absence of any overt marker of clausal coordination. Phrasal coordination is achieved by placing the comitative preposition *d* between the coordinated elements, whereas clausal coordination occurs via two different modalities, namely the mere juxtaposition of TAM-marked forms or the use of chained-Aorist constructions. Clausal coordination is only cursorily sketched in what follows, as it constitutes the core topic of chapter 9.

In particular, chained-Aorist structures are some of the most interesting constructions attested in Ayt Lfisi Tamazight, as well as in several other Berber varieties, such as Ayt Seghrouchen (Bentolila 1981). This phenomenon widely occurs across all speech genres, both in narrative texts (folktales, anecdotal narration, etc.) and in other text types. Its most conspicuous feature consists in the presence of an initial TAM-marked verb form, followed by one or more Aorist-marked verb

¹¹⁸ This particle functions as a mere phrase coordinator in other varieties, including Ayt Atta and Awjila (for the latter, cf. van Putten 2013: 165).

¹¹⁹ This is a reflex of the Arabic conjunction *wa*.

forms. The relation between the initial situation and the one(s) which follow(s) has been interpreted in terms of sequentiality (Bentolila 1981).

The distribution of bare Aorist verb forms points to its neutrality vis-à-vis TAM information, as it only provides such grammatical features as person, number, and gender. The first verb provides an interpretative frame within which all of the following Aorist verbs will be understood, provided the latter are seen as being chronologically linked to the former. In this sense, the Berber Aorist should not be confused with the homonymous category attested in languages such as Ancient Greek or Bulgarian.

The following sentence shows an initial Imperative form followed by an Aorist; the utterance intended to express a universally-valid statement about a link between research and discovery:

- (6.66) *inig* *t-af-t*
 search_for.IMP 2SG-find.AOR-2SG
 ‘Look for (something), you find’ (=if you look for something you will find it)’

What seems to be relevant here is the notion of necessity linking the two events.

Chapter 9 provides a more detailed analysis of this phenomenon, showing the limitations of an interpretive approach based on sequentiality.

§6.4.2 Subordination

The three canonical types of subordinate clauses are sketched in this section, namely adverbial clauses, complement clauses, and relative clauses.

§6.4.2.1 Adverbial clauses

Several types of adverbial clauses are described in this section, namely temporal clauses and purposive clauses.

§6.4.2.1.1 Temporal adverbial clauses

Temporal adverbial clauses employ a variety of particles which combine with different stems. A list of particles is provided below:

(6.67) Temporal adverbs

dinnag

addag

ddaḡ g

lliḡ g

Some of these are temporally-oriented, in that they definitely favour or require a particular time reference. This is the case with *lliḡ g*, which is followed by a TAM-marked verb form, be it PFV or da-IPFV: in both cases, a past-time interpretation is meant, or, possibly, one which involves completion. This is shown in the following examples:

(6.68)	<i>t-nkr</i>	<i>t-Ø-kirdm-t</i>	<i>zman</i>	<i>lliḡ = g</i>
	3SG.F-get_up.PFV	F-DS-scorpion-F	past	PAST = at
	<i>da</i>	<i>j-bt^ʕt^ʕu</i>	<i>rbbi</i>	<i>iḡf-awn</i>
	TAM	3SG.M-divide.IPFV	Lord	head-PL

‘There came the scorpion, in the past, when the Lord was distributing heads’

In this example, the distribution of heads by the Lord is meant to have occurred at the beginning of times, in the past, as the sentence makes it explicit.

The particle *ddaḵ* seems to indicate a situation temporally situated in proximity of another situation, e.g. immediately prior to the time of speech or to a reference time. It seems to be most frequently used for situations occurred just before the time of speech but this is not the only option, as the following example shows, where it seemingly introduces a temporal clause:

- (6.69) *da=k* *ttini-n* *ajt* *llik* *ddaḵg* *rad*
TAM=2SG.M IPFV.say-3PL.M people[PL] past when TAM
ini-n *lqist* *s* *t-afuj-t* *ini-n=ak*
say.AOR-3PL.M story(F) with F-sun-F say.AOR-3PL.M=2S.M
sɣll-k *ur* *ttgga-n* *w-arraw=inw*
swear.PFV-1SG NEG be.IPFV-3PL.M DS-children[PL]=1SG.POSS
i-mɜɜʔadʔ
PL-bald.PL
‘In the past people used to say when they wanted to tell a story in the daytime, they would say: “I swear so that my children do not become bald”’

In (6.69), *llik* situates the referents in the past so that the noun phrase could be translated as ‘people of the past, ancestors’. On the other hand, *ddaḵg* connects two situations and the times at which they took place: these are the time at which the formula is uttered and the actual storytelling time (which follows the former).

§6.4.2.1.2 Purposive clauses

Purposive clauses are introduced by a variety of particles across Berber. Ayt Atta Tamazight and other Atlas dialects express purposive clauses by a combination of

- (6.73) *dkɪ sʰbaħ j-nna = s ħmmu i muħa*
 now morning 3SG.M-say.PFV = 3SG.DAT Hammou to Moha
is j-qqima iħfu asʰsʰnat g taddart talgg^wat
 COMPL 3SG.M-stay.PFV Ichou yesterday at house evening
 ‘This morning, Hammou asked Moha whether Ichou stayed at home
 yesterday evening’

§6.4.2.3 Relative clauses

Relative clauses follow the noun they modify in Berber. AAT relative clauses display a number of characteristics, notably the presence of a number of relativisers, the use of participial verb forms in subject relative clauses, and the phenomenon of clitic attraction. Moreover, relative clauses in AAT are formed by extraction. Typologically, it can be said that AAT uses the ‘gap strategy’ (Keenan 1985) in relative clauses. All these points are illustrated in what follows.

The first characteristic of AAT relative clauses is that they are usually introduced by one of a number of relativisers, placed between the antecedent noun phrase and the relative clause itself. Their obligatory or optional status needs to be better ascertained, although speakers seem to favour their presence.

There seem to be at least two such relativisers in Ayt Atta Tamazight, namely *nna* and *dda*. The first one is also attested in the Northern Tamazight variety spoken by the Ayt Ndhir (Penchoen 1973: 67). The possibility for *nna* and *dda* to co-occur with deictic particles *nnaκ* and *ddaκ* seem to indicate that they should not be identified with the deictic particles themselves:

- (6.74) *a-rjaz dda nna j-sawal-n d ijma-k*
 AS-man DEM REL PTCP-talk.IPFV-PTCP REL brother-2SG.M.POSS
imhra j-dda
 TAM 3SG.M-leave.PFV
 ‘That man who was talking with your brother has just left’

In other words, they may have evolved out of deictics, but they seem to have become some independent relativisers (cf. Kossmann 2013b: 369ff. for a discussion of the use of deictic clitics in relative clauses).

The following two sentences involve the use of relativisers *nna* and *dda* and are interpreted as essentially expressing the same meaning:

- (6.74) *brahim j-wt a-rba nns*
 Ibrahim 3SG.M-hit.PFV AS-boy 3SG.POSS.M
nna j-ukr-n t-i-jni-win
 REL PTCP-steal.PFV-PTCP F-PL-date-PL
 ‘Ibrahim has beaten his son who has stolen dates’

- (6.75) *brahim j-wt a-rba nns*
 Ibrahim 3SG.M-hit.PFV AS-boy 3SG.POSS.M
dda j-ukr-n t-i-jni-win
 REL PTCP-steal.PFV-PTCP F-PL-date-PL
 ‘Ibrahim has beaten his son who has stolen dates’

There might be one more relativiser in the language, namely *llik*. However, its status as a relativiser appears to be less clear: the fact that it conveys a notion of remoteness (or possibly completion) distinguishes from the other two particles, which do not clearly express any TAM meaning. The use of *llik* in (6.76) clearly makes this sentence different from (6.74) and (6.75):

- (6.76) *brahim j-wt a-rba nns*
 Ibrahim 3SG.M-hit.PFV AS-boy 3SG.POSS.M
lliḵ j-ukr-n t-i-jni-win
 REL PTCP-steal.PFV-PTCP F-PL-date-PL
 ‘Ibrahim beat his son who had stolen dates’

As the last example suggests, the use of *lliḵ* possibly indicates the remoteness of the situation described by the relative clause.

As for the status of *nna* and *dda*, it seems that they can be omitted without any noticeable difference in meaning, as shown by comparing the following sentence to (6.74), given above:

- (6.77) *a-rjaz ddaḵ j-sawal-n d ijma-k*
 AS-man DEM PTCP-talk.IPFV-PTCP REL brother-2SG.M.POSS
imḥra j-dda
 TAM 3SG.M-leave.PFV
 ‘That man who was talking with your brother has just left’

In (6.77), the relativiser is dropped but the sentence retains its grammaticality.

The second characteristic of relative clauses is that they behave differently depending on the grammatical function of the head noun, a feature shared with a number of other Berber languages (Kossmann 2013b: 369ff.). Relative clauses where the head noun corresponds to a subject differ from the other types as they make use of a special verb form: the participle (see §5.3.1). In part of the literature, this phenomenon is referred to as *antiagreement construction* (Guerssel 1995; Ouhalla 1993). One more example of a subject relative clause is provided below:

- (6.78) *j-uf* *w-nna* *ur=t* *j-li-n*
 3SG.M-be_better.PFV M-REL NEG=3SG.M.OBJ PTCP-have.PFV-PTCP
w-nna=d *j-rba-n* *ikf* *amʔdʰur*
 M-REL=VEN PTCP-carry.PFV-PTCP head foolish
 ‘The one who hasn’t got any (head) is better than the one who’s carried
 back a foolish head’

Direct-object relative clauses and indirect-object relative clauses make use of fully-inflected verb forms, as (6.79) and (6.80) show, respectively:

- (6.79) *muħa nna j-wt w-rjaz ddaκ u-ijm*
Moha REL 3SG.M-hit.PFV DS-man DEM person-Ichem
ajd j-ga
REL 3SG.M-be.PFV
‘Moha, whom that man hit, is from Ichem’

- (6.80) *brafiim j-annaj iffu nna = mi j-ka*
 Ibrahim 3SG.M-see.PFV Ichou REL = to 3SG.M-give.PFV
i-drim-n imalas-ddk j-zrj-n
 PL-money-PL week-DEM PTCP-pass.PFV-PTCP
 ‘Ibrahim saw Ichou to whom he had given money last week’

Both (6.79) and (6.80) display inflected forms of the relative-clause verbs. Incidentally, these two examples also show that the canonical position of the relativised noun corresponds to a gap (i.e. it is left empty).

The last characteristic of relative clauses analysed here is that relativisers attract clitics (cf. §6.2.4).

- (6.81) *brahim j-ka=s t-a-tfaḥ-t i w-rba*
 Ibrahim 3SG.M-give.PFV = 3SG.DAT F-AS-apple-F to DS-boy
nna=d j-gula-n
 REL = VEN PTCP-arrive.PFV-PTCP
 ‘Ibrahim has given an apple to the boy who has arrived’

In (6.81), the ventive clitic is realised in preverbal position due to the presence of relativiser *nna*.

Part 1

Conclusion

Part 1 of the present dissertation has achieved a description of the general properties of Ayt Atta Tamazight. This has fulfilled two purposes: first, it provides a better understanding of a variety whose grammar was not investigated before the present work; second, it paves the ground for the study of AAT's aspectual system.

Given the introductory nature of this sketch grammar, choices had to be made and only a cursory look has been cast upon several aspects of this variety. However, it is hoped that this short grammar will still represent a contribution to Berber comparative studies. Let's now turn to the main focus of this dissertation: the investigation of aspectuality in AAT discourse.

Part 2

Aspectuality in Ayt Atta discourse

This second part moves away from formal concerns and analyses the functional properties of the verbal system. The first chapter discusses the category of grammatical aspect, a notion which plays a central role within the morphosyntax of Ayt Atta Tamazight. The section provides an overview of the existing literature and discusses some approaches to the analysis of the interplay between grammatical aspect and actionality. The work is organised as follows: a preliminary definition of grammatical aspect is given first (§7.1), followed by an overview of the existing literature on grammatical aspect (§7.2): this discusses the features typically associated with perfective and imperfective aspect; two of those features (namely grounding and sequentiality) are singled out for a more detailed illustration (§7.3); the long-debated notion of actionality is discussed (§7.4); some considerations on the notions of subjectivity and objectivity in relation to grammatical aspect and actionality are then put forth (§7.5); finally an illustration of two important approaches to the aspect/actionality interface is given in (§7.6).

The chapter that follows illustrates the main features of the Perfective and the Imperfective in Ayt Atta. This chapter has instrumental value, in that it provides the necessary background to the discussion of verb distribution in narration (to be

undertaken in chapter 9). It starts by discussing the Perfective (§8.1) and the Imperfective (§8.2), before providing some conclusive remarks (§8.3).

The following chapter focuses on the verb stem known as *Aorist* in Berber literature. Two main uses of the Aorist are analysed: first, the Aorist may be preceded by a number of TAM particles, in which case it expresses tense and modality (§9.1); second, the Aorist may appear without a preceding particle, in which case it is referred to as *Bare Aorist* (§9.2): it is this use of the Aorist which represents the main object of investigation in this thesis. Chapter 9 suggests renaming two Bare-Aorist constructions often discussed in the literature as *Free Aorist* (§9.2.1) and *Chained Aorist* (§9.2.2), and investigates their properties in AAT and across Berber; it proposes a new interpretation of the Chained Aorist construction in terms of clause chaining and analyses its function in discourse (§9.3); it also suggests an analysis of the Free Aorist in terms of clause chaining (§9.4); finally, it provides some conclusive remarks on the Aorist in AAT (§9.5).

A general conclusion sums up the main findings of the second part of this work and indicates directions for further research.

Chapter 7

Grammatical Aspect

§7.1 A preliminary definition

Comrie’s classic definition will serve as a preliminary introduction to the notion of aspect: “aspects are different ways of viewing the internal temporal constituency of a situation” (Comrie 1976: 3).¹²¹ This means that a speaker can conceive of a situation either as being complex and structured into analysable parts, or as consisting of a single, undifferentiated whole (Comrie 1976: 3). These two alternative ways of looking at what is one and the same situation are known as *imperfective* and *perfective* aspect, respectively, as the following oft-mentioned example from French shows (Comrie 1976: 17):

(7.1) *le roi régnait*^{IPFV} *trente ans*

(7.2) *le roi régna*^{PFV} *trente ans*

This example was used by Comrie to dispel the former widely-held idea of a link between, on the one hand, perfective and short-lasting situations, and, on the other hand, imperfective and long-lasting situations (cf. Shakhmatov, cited in Forsyth

¹²¹ As Comrie points out, this definition is itself based on a previous definition given by Holt (1943: 6).

1970: 3). The perfective is no less compatible with long-lasting situations than the imperfective is. However, the difference between the two categories is that the perfective reduces the situation to a point, or rather, to a blob, an object which has internal complexity but “clearly circumscribed limits”, whereas the imperfective allows the speaker to pay attention to the internal structure of that situation (Comrie 1976).

The fact that aspect has been conceived of as an essentially external, subjective way of looking at a situation is the reason why it has been variously referred to by names such as *viewpoint aspect*, *subjective aspect*, and *outer aspect*.

This semantic definition of aspect is compatible with the observation that languages differ with regard to the grammaticalisation of the distinction between perfective and imperfective. In some languages, viewpoint aspect is either obligatorily marked on the verb or expressed via other grammatical means, whereas other languages do not grammaticalise this distinction but may still express similar meanings by using adverbials or lexical material.

A clear understanding of the aspectual domain has often been hindered by terminological confusion, partly stemming from a failure to distinguish between the semantic nature of viewpoint aspect and its grammaticalised expression in a number of languages. In order to unravel the complexity of this notion and to avoid conceptual and terminological pitfalls, an overview of the literature on grammatical aspect is provided in what follows. Due to the myriads of publications on aspect-related issues, such an overview cannot aim at exhaustivity but will be limited to the illustration of some influential analyses, mainly focusing on those authors whose insights seem to be most relevant to my later discussion of aspect in Ayt Atta Tamazight.

§7.2 Overview of the literature on Grammatical Aspect

As Comrie explicitly states in the Preface to his classic book *Aspect* (1976), his work “presents aspect as a part of general linguistic theory” (Comrie 1976: vii) and this was possibly the main novelty vis-à-vis earlier treatments of the topic, which were concerned with language-specific analyses of aspectual phenomena. Notwithstanding this new cross-linguistic approach, a central position in his book was still occupied by Slavic languages. This was in continuity with a long-standing tradition, since the study of aspect had been shaped by the investigation of Slavic languages, where the combination of verb stems and affixes expresses meanings traditionally accounted for in terms of grammatical aspect.

However, it is perhaps ironic that, in spite of the fact that Slavic languages were and are the locus of much research on grammatical aspect, more recent typological studies have classified the Slavic verbal categories as ‘eccentric’ from an aspectual viewpoint, i.e. as non-prototypical examples of grammatical aspect (Bertinetto & Delfitto 2000; Dahl 2000: 17). Despite this important caveat and the fact that a detailed study of Slavic aspect is obviously beyond the scope of the present work, it still seems to be useful to consider the wealth of features variously associated with aspectual distinctions in the literature on Slavic, for at least two reasons: first, Slavic features prominently in the general literature on aspect, even in more recent publications (cf. Gvozdanovic 2012); second, some of the features ascribed to Slavic aspect are undoubtedly relevant to the analysis of Berber aspect too, as later sections will show.

An interesting overview of semantic features associated with Perfective¹²² in Russian is provided by Janda (2004): focusing on the perfective/imperfective contrast, she states that “most feature analyses assume that the Russian Perfective is the marked member of the opposition, with Imperfective as a default value, and consequently describe the Perfective positively and the Imperfective as its negation” (Janda 2004: 477). The features usually associated with the Perfective in Slavic are listed in the table below, freely based on Janda (2004).¹²³ The ensuing discussion is not limited to Slavic though, but the aspectual categories of other languages will be illustrated too (e.g. Homeric Greek).

(7.3) Features associated with Perfective aspect in the literature on Slavic

- boundedness and totality: Forsyth (1970)
- boundedness: Avilova (1976); Jakobson (1971[1957]); Padučeva (1996); (Talmy 2000); Hopper (1982: 13)
- totality: Bondarko (1971); Comrie (1976: 4); Dickey (2000); Durst-Andersen (1992); (1991); Maslov (1965); Vinogradov (1972)
- definiteness: Bondarko (1971); Dickey (2000);
- change / sequentiality: Hopper (1979); Hopper (1982); Bondarko (1971); Durst-Andersen (1992); Galton (1976); Langacker (1991)
- exteriority: Comrie (1976: 4); Bybee et al. (1994); Isačenko (1960); Arkadiev (2009: 57)

¹²² Upper-case initials are used in this work to refer to language-specific categories and forms belonging to those categories (e.g. Perfective); lower-case initials refer to cross-linguistic categories (e.g. perfective) instead. This graphic policy follows Comrie (1976: 10).

¹²³ For each feature, the table also indicates the author(s) who put forward that particular interpretation of Perfective aspect in Slavic. Russian-language publications are discussed in Janda (2004) and were not directly accessed by the author of the present dissertation.

- retrospective: Padučeva (1996); Arkadiev (2011: 63)
- foregrounding: Binnick (1991); Čertkova (1996); Chvany (1990); Galton 1976; Hopper (1979); Stoll (2001)
- punctuality: Čertkova (1996); Mazon (1914); Padučeva (1996); Comrie (1976)
- resultative: Čertkova (1996); Vinogradov (1972)

As the table shows, one or more features are often relied upon by individual authors in order to provide a full account of grammatical aspect within a specific Slavic language or cross-linguistically. Section §7.2.1 provides an illustration of these features.

§7.2.1 Features associated with perfective aspect in the literature

This section discusses the features which are typically associated with perfective aspect in the literature.

A widely-discussed feature is the one of *totality*: e.g. Maslov (1965); Forsyth (1970); Bondarko (1971); Vinogradov (1972); Comrie (1976); Smith (1991); Durst-Andersen (1992); Dickey (2000). Conceiving of a situation as being total means looking at it “as a single unanalysable whole, with beginning, middle, and end rolled into one” (Comrie 1976: 3). As mentioned above, perfective aspect is by no means restricted to punctual events, but is compatible with all kinds of internally-complex situations, provided that “the whole of the situation is subsumed as a single whole” (Comrie 1976: 21). On the other hand, a situation may be conceived of imperfectively, if only some parts of a situation are referred to.

Comrie warns against conceptualising the perfective as the expression of *completed* events, as this would place undue emphasis on the relation between perfective and past-time reference: for this reason, he suggests the definition of perfective as the expression of *complete* events instead (Comrie 1976: for a similar idea, cf. Forsyth 1970: 11)¹²⁴ This means perfective is theoretically as compatible with future-time events as it is with past-time ones.

However, a strong association between perfective and past-time situations does exist in practice. The unidirectional nature of time means that it is much easier to conceptualise events as complete in the case of past situations than it is with future ones. The past is a dimension known to the speaker and a past event can be looked at in its entirety, whereas the future is open to all possible outcomes: this is not just relevant to the domain of modality but also sustains the strong correlation between past-time reference and perfective aspect attested cross-linguistically. For this reason, languages which do not express tense grammatically can still convey temporal distinctions by using aspect-encoding verb forms, because of an inference of past-time reference arising from the default interpretation of a complete situation (Friedrich 1974; Smith 2005).

Several other authors analyse aspectual oppositions as relying on the notion of totality. The cognitive approach to Slavic aspect undertaken by Dickey (2000) assigns a prominent role to both totality and *temporal definiteness*. Moving away from binary, feature-based analyses of aspect, Dickey uses Prototype Theory in order to show that a theory of Slavic aspect has higher explanatory power if a particular meaning is regarded as cognitively basic and salient, i.e. prototypical:

¹²⁴ Cf. the label *retrospective*, discussed below (Arkadiev 2011: 63).

metaphorical extensions from this semantic core account for the use of one and the same grammatical category in more peripheral contexts.

In his quest for the core meaning of aspectual categories in Slavic, Dickey remarks that there are two main theories (or, rather, groups of theories) which analyse the perfective as involving completeness (Dickey 2000: 17). The first theory states that the perfective expresses totality, reducing a situation to a (logical) point. According to the second theory, the perfective marks the actual achievement of the *internal limit* or *boundary* of a situation, its inherent endpoint, a moment which exhausts the situation itself: these two theories are known as *totality theories* and *limit theories*, respectively, and are jointly referred to as *synoptic theories* (Dickey 2000: 17).

The fact that so-called *atelic activity verbs* may co-occur with the Perfective seems to support a totality interpretation of the Slavic Perfective and discard the supposed role of an inherent endpoint in aspectual selection: despite the fact that atelic activity verbs lack such an inherent endpoint, Perfective aspect can still be used with those verbs (Dickey 2000: 17-18).

In addition to the synoptic theories, Dickey distinguishes another set of theories assigning a central role to the notion of time itself: accordingly, these are referred to as the *temporal theories of aspect* (Dickey 2000: 18). Such theories conceive the Perfective as expressing *temporal succession* (Galton 1976), *sequentiality*¹²⁵ (Hopper 1982), and *temporal definiteness* (Leinonen 1982). In particular, the latter notion of *temporal definiteness* has paramount importance in Dickey's work: following Leinonen (1982), he states that “a situation is temporally definite if it is uniquely

¹²⁵ The notion of sequentiality will be thoroughly discussed in the next paragraph.

locatable in a context, i.e. if it is viewed as contiguous in time to qualitatively different states of affairs” (Dickey 2000: 19-20).

Dickey shows that most Slavic languages can be classified into two groups according to their aspectual properties and this confirms the existence of an east/west isogloss in Slavic, previously established on independent grounds and now reformulated in aspectual terms.¹²⁶ The correctness of the traditional dialectal classification is asserted on the basis of the notion of temporal definiteness. As seen above, this notion requires that a situation be assigned one and only one time span on the time axis (Dickey 2000: 259). A corollary of this is the incompatibility between temporal definiteness and the expression of habitual situations (Dickey 2000: 54).

Indeed, these two dialect groups differ with regard to the aspectual marking of iterative events (among other differences): a habitual interpretation of an event is compatible with Perfective marking in the western Slavic languages, whereas it requires Imperfective aspect in the eastern ones (Dickey 2000: 52ff.). The different distribution of Perfective forms is accounted for on the basis of the different values the Perfective itself has across Slavic: it marks totality in western varieties, but indicates temporal definiteness in eastern ones. This is possible since a cognitive approach allows him to claim that both a totality and a temporal theory of aspect may provide good explanations for the use of Perfective aspect in Slavic, albeit each of them within its own language group.

Dickey’s work further analyses the Imperfective as expressing a core meaning of *temporal indefiniteness*, this being the case across the whole of Slavic. The fact that

¹²⁶ A few other languages (namely Polish and Serbo-Croatian) display mixed behaviour: for this reason, they are not straightforwardly categorisable, and assigned to a transitional area instead.

the Imperfective is used in different ways in the two groups can be explained by the relevance of different factors in determining its prototypical meaning.

A cognitive approach also informs Janda (2004), although her analysis stems from the application of an Idealised Cognitive Model (ICM) to the domain of aspect. In particular, she states that “the ICM of matter is a basic-level concept directly derived from embodied experience” (Janda 2004: 485). A set of metaphors are employed to account for the contrast between Perfective and Imperfective in Slavic: ultimately stemming from the *time is space* metaphor, the Perfective is conceived of as a *discrete solid object* and the Imperfective as a *fluid substance* (Janda 2004: 489).¹²⁷ A set of cognitive properties are associated with discrete solid objects and fluid substances: these relate to shapes and boundaries, penetrability, possibility of occupying the same space, and ease-of-crossing for humans. This cognitive model of matter is employed by Russian speakers in order to metaphorically describe temporal relations. This is a radical departure from feature-based approaches but aims to be consistent with the intuitions that those approaches had brought to studies of aspect (Janda 2004: 475).

The ICM-of-matter theory produces several interesting entailments and these allow Janda to make predictions about the distribution of aspectual forms in Russian. In particular, it is interesting to focus on one such entailment, one concerning the human body. Moving from earlier work on the Moving Observer and the Moving Time metaphors (Lakoff & Johnson 1999: 141-48) according to which a human being occupies the present moment on the time axis, and considering a human body as an essentially discrete solid object, Janda states that “two solid objects (the human

¹²⁷ The use of spatial metaphors to conceptualise situations is also found in other authors, such as Galton (176), Talmy (2000), Holden (1989).

body of the observer and the discrete solid of a Perfective situation) cannot occupy the same spot on the timeline [...]” (Janda 2004: 490-91). This is borne out in Russian, since the non-past Perfective cannot receive a present-time reading (as opposed to the Imperfective which can), but will be interpreted as having future-time reference instead. What is interesting here is the statement of the theoretical impossibility for Perfective aspect to have present-time reference.

Another important analysis of the (Russian) Perfective in terms of totality and definiteness was put forth by Forsyth (1970). His analysis adopts a structuralist approach, following earlier literature on Slavic aspect, e.g. Jakobson (1971[1957]); Maslov (1965). On the one hand, the meaning of the Perfective is conceived of as being specific and positively definable, although in fact, scholars do not agree on it (Dickey 2000: 16). On the other hand, the Imperfective may display a wide range of meanings hardly subsumable under a common denominator, including habituality, iteration, progressiveness, duration, and incompleteness. In Forsyth’s words, the meaning of the Imperfective is “too indefinite and wide to be adequately covered by any combination of positive characteristics” (Forsyth 1970: 11).

The concept of *privative opposition* is pressed into service in order to provide an account of this apparent asymmetry in the distribution of Russian aspects (Forsyth 1970: 6-7). According to Jakobson (1971[1957]), a privative opposition is one where one category is seen as characterised by some defining feature, whereas the other category is conceived of as non-committal with regard to the presence or the absence of that very feature. As far as the Russian Perfective is concerned, the Perfective is seen as the marked¹²⁸ member of a binary opposition by virtue of its specific meaning and more limited distribution, and it is defined as the form which

¹²⁸ A discussion of the concept of *markedness* in its application to aspect is provided by Andrews (2012).

“expresses the action as a total event summed up with reference to a single specific juncture” (Forsyth 1970: 8).¹²⁹ On the other hand, the Imperfective is defined privatively, which means an Imperfective form does simply not state whether the meaning associated with the Perfective is present or not (Dickey 2000: 17; Forsyth 1970: 7-8). This aims to account for those uses of the Imperfective in definite contexts where one would expect to find the Perfective instead: the use of the Imperfective is not incompatible with such contexts since the speaker is simply not interested in focusing on the totality of a situation, which is why the Perfective is not used.

Another study providing insights on the application of the notion of markedness to aspectual distinctions is Friedrich’s analysis of aspect in Homeric Greek (1974). Homeric Greek is a language opposing three verbal stems,¹³⁰ namely the durative, the aorist, and the perfect (Friedrich 1974: S9). The durative theme includes the present and the imperfect. The present has an inherent durative meaning with present-time reference, and secondary, context-dependent meanings such as iteration, future, and even past (historical present). The imperfect similarly expresses duration, but it is accompanied by a combination of endings and the so-called augment, which together indicate past tense. Interestingly, the “imperfect, unlike the present, aorist, or pluperfect, may not run into or include the time of the present speech situation” (Friedrich 1974: S10).

¹²⁹ This is essentially akin to the concept of temporal definiteness ascribed to eastern Slavic languages by Dickey (2000: 259), as seen above. Janda (2004: 477) states that Forsyth’s analysis conceives of the Perfective in terms of *boundedness* and *totality*. However, her own definition of *boundedness* does not seem to fit with the definition put forth by Forsyth, which is actually better explained in terms of *definiteness*: indeed, Janda’s own definition of definiteness seems to be better suited to the description of Forsyth’s “single specific juncture”.

¹³⁰ Friedrich calls these *themes* (1974: S10).

The aorist is usually interpreted as perfective aspect having past-time reference.¹³¹ However, Friedrich remarks that “past tense is an implication of the aorist forms, but it ranges from a limited probability to a weak connotation to zero” (Friedrich 1974: S10). Furthermore, the aorist is said to indicate either momentary actions or the mere process, conceived of without any emphasis to its unfolding: these different uses are conceived of as deemphasising duration or rather as to being non-committal about duration: this stands in stark contrast to the durative stems which explicitly claim the durative character of a situation.

Such diverging uses of the aorist are one of the elements upon which Friedrich bases his claim that the aorist is less marked than the durative (Friedrich 1974: S11); other factors include the fact that the aorist is less-marked morphologically and semantically (Friedrich 1974: S13-14). This leads him to state that the aspectual system of Homeric Greek is based on a durative vs. non-durative opposition, remarking how the system differs from the one found in Slavic, where the existence of a basic opposition between completion and non-completion is regarded as occupying a central role (Friedrich 1974: S21).

The past-time reference opposition between durative (imperfect) and aorist can roughly be expressed as one between imperfective and perfective. Among the main differences between these two categories is the fact that the aorist is used for the expression of general truths and conditions, whereas the imperfect is used for the description of “natural, ethnographic, and other similar facts [...] and is not used in strictly gnomic contexts” (Friedrich 1974: S16).

¹³¹ This is the traditional value attributed to the Aorist. It is important to remark that the Berber Aorist does not express past-bound perfective value, but it has a fundamentally-different function and meaning. This will be illustrated later on in this work.

Another notion attested in the literature on grammatical aspect is *exteriority* (Bybee et al. 1994; Comrie 1976: 4). This relates to the metaphor discussed above, namely the one according to which the perfective is associated with viewing a situation from outside and being able to focus on it as a whole, whereas the imperfective would zoom in on the internal structure of the situation itself. A well-known metaphor supposedly put forth by Isačenko compares grammatical aspect to a parade: viewing a parade perfectly would consist in looking at it from a distance, enjoying the whole show, as it were; the same situation would be looked at imperfectively by being within the parade itself, being surrounded by its constitutive parts.

The perfective has also been associated with a *retrospective* way of looking at a situation, “whereby the situation is seen in its entirety as having external boundaries (be they inherent, as with telic eventualities like *write a letter*, or arbitrary, as with atelic eventualities like *walk*)” (Arkadiev 2011: 63). However, this term seems to be unfortunate, because of the same reason that led Comrie to reject the idea of viewing the perfective as the expression of ‘completed’ situations (see above): both terms seem to be accompanied by some undue emphasis on past-time reference, which glosses over non-past uses of the perfective.

The illustration of the list of features typically associated with perfective is not completed. Two more features are found in the literature on grammatical aspect which seem to be relevant to the investigation of Ayt Atta aspect: these are *figure vs ground* and *sequentiality* (2004).

Both features make reference to the association between Perfective aspect and the expression of events in narration, which are both salient narrative objects and sequentially arranged on the time axis.

Despite their frequent correlation, grounding and sequentiality should not be confused since they are distinct properties. Their differences are not just a theoretical construct but empirical observations show how “foregrounding versus backgrounding can exist even in a nonsequential text, demonstrating that these two effects are not entirely dependent on each other” (Janda 2004: 505-06, citing Chvany 1990). A situation may be foregrounded without being part of a sequence, as seen in the following literary example, from Gorky’s *Na dne* (cited in Dickey 2000: 57):

(7.4) *on ničego vse-taki... Tol’ko tak inogda bryknetsja’ ... vrode kak nasčet tvoego pasporta*

‘He’s all right, nevertheless... Only sometimes he makes a fuss just like that... as if on account of your passport’

This is an instance of nonsequential perfective, as discussed by Bondarko (mentioned in Dickey 2000: 57). The event is claimed to stand out against a given background, expressing the exceptionality of the foregrounded situation against the habitual state of affairs that the background refers to: “the sudden occurrence of an event against the background of another state of affairs is an instance of a figure” (Dickey 2000: 57, based on Leinonen 1982). Both figure vs ground and sequentiality fulfil a prominent role in the theories of narrative discourse to which this work now turns.

§7.3 Theories of aspect in discourse

The discussion of grammatical aspect has illustrated the semantic features associated with perfective and imperfective in the literature. The implicit horizon of the theories discussed so far has been the clause. This section focuses on a higher level

of organisation than the clause, investigating the place of aspectual distinctions in two related theories of discourse.

§7.3.1 Aspect and foregrounding

The theory elaborated in Hopper (1979; 1982) proposes a discourse-based analysis of the perfective/imperfective distinction and this constitutes a radical departure from the theories presented so far.

In a seminal paper published in 1979, Hopper illustrates a theory of discourse which postulates a fundamental division between story line and supportive materials, which are referred to as the *foreground* and the *background*, respectively (Hopper 1979). It is a “universal of narrative discourse” that “an overt distinction is made between the language of the actual story line and the language of supportive materials which does not itself narrate the main events” (Hopper 1979: 213).

Events on the main storyline are foregrounded in that they are narratively prominent, standing out as it were against a background, “like shells on a sandy beach” (Janda 2004: 505). On the other hand, less-salient materials constitute the background of a narration, providing information about the setting in which a story unfolds as well as commentaries and descriptions, in addition to relating events concomitant to those on the main-story line.

Hopper analyses the linguistic features of foreground and background across languages and remarks that, if a language has grammatical aspect, there is a correlation between perfective aspect and events on the main storyline, i.e. the foreground. In fact, he goes on to claim that tense/aspect categories may be accounted for as morphological stratagems adopted by languages in order to overtly express universal discourse properties, i.e. to implement the universal foreground-

background distinction.¹³² In this sense, aspectual distinctions should be conceived of “as deriving from discourse, rather than as ready-made devices “deployed” in discourse because they happen already to exist” (Hopper 1979: 217).

As for the defining characteristics of the perfective (i.e. of the foreground), sequentiality represents a core feature, since events on the main story-line are usually salient narrative objects sequentially arranged along the time axis: this means that narration mirrors the chronological order in which events pertaining to one and the same story occur. Assigning a defining role to sequentiality is tantamount to conceiving of any other meaning (including completion) as a by-product of the intrinsic requirements of sequential events (Hopper 1982: 15).

As for the characteristics of the background, background situations are often not assigned a definite place on the time axis and are not interpreted as being rigidly sequential to one another or to the main storyline: background material may refer to situations which occur simultaneously to foreground events or which could even be omitted without any resulting loss of salient information. Hence, sequentiality is not a property of background information: the use of the imperfective seems to precisely express the lack of sequentiality which the use of the perfective would otherwise entail.

§7.3.2 A Grammar of Discourse

The theory proposed by Hopper assumes that a universal distinction between foreground and background exists and explains aspectual distinctions as being fully motivated by discourse requirements. Another theory whose investigation of

¹³² Hopper discusses word order and voice as other ways languages employ in order to formally distinguish foreground and background (Hopper 1979).

discourse leads to a more insightful account of aspectual distinctions is Longacre's *Grammar of Discourse* (Longacre 1990; 1996; 2007).

The theory provides a typology of discourse and a storyline analysis. The former recognises the existence of various discourse types, each characterised by idiosyncratic features: these types include narrative discourse, procedural discourse, hortatory discourse, expository (explanatory or descriptive) discourse (Longacre 1990: 1-2).

Similarly to Hopper's theory, Longacre too individuates a distinction between *mainline* (or *storyline*) and *supportive* material: "for any language, each type of text has a mainline of development and contains other material which can be conceived of as encoding progressive degrees of departure from the mainline" (Longacre 1996: 23). For example, the storyline of narrative discourse can be structured into storyline (proper), backgrounded events, backgrounded activities, setting, irrealis, author intrusions, and cohesive (Longacre 1990: 4).

As soon as reference is made to the basic distinction between storyline and supportive material, some clear-cut associations between discourse types and specific morphological forms become evident: for example it becomes possible to formulate statements such as "past tense characterizes the mainline of narrative discourse; present or future (depending on language and subtype), the mainline of procedural discourse; and imperative, the mainline of hortative discourse (Longacre 1996: 21).

As far as narrative discourse is concerned, Longacre assumes that *sequentiality* is "the prime characteristic of the storyline, i.e. of foregrounding in narrative" (Longacre 1996: 25). His theory builds on earlier work such as Hopper and Thompson's work on the parameters of transitivity (Hopper & Thompson 1980;

Longacre 1996: 24). In his view, their omission of sequentiality from the parameters of transitivity is due to their narrow focus, as they “consider individual sentences as to the parameters that they exemplify and then test them as to fitness for foregrounding or backgrounding in narrative, then recognise ex post facto that such sentences are sequenced in narrative” (Longacre 1996: 24). The problem with this approach is that a verb may satisfy all of the parameters listed (such as kinesis and punctuality among others) and still fail to be sequential, e.g. it could encode a flashback instead.

The theories of narrative discourse discussed in this section seem to be of extreme interest for an understanding of grammatical aspect in Ayt Atta. In particular, the chapter on the Aorist shows the relevance of a discourse-based approach.

§7.4 Actionality

Languages which grammaticalise aspectual distinctions may be unable to consistently implement those distinctions throughout their verbal systems. For instance, in spite of its well-attested status as an aspectual category of English, the Progressive cannot be applied equally to all English verbs. Indeed, some Progressive forms are accepted only reluctantly, if they are not downright rejected by native speakers: clauses such as *John is loving Mary* or *Steve is knowing the solution* certainly sound odd vis-à-vis *John is kissing Mary* or *Steve is writing the solution*.

The intuition sustaining these judgements is that *kiss* and *write* are more readily acceptable in the Progressive form than *love* and *know* are. Abstracting away from the examples provided, some properties of lexical items seem to clash with aspectual forms such as the English Progressive. More accurately, it is the temporal structure embedded in lexical items which accounts for the diverging behaviour of one and the same type of grammatical

aspect. The illustration of the temporal structure of verbs constitutes the object of this section.

The investigation of this type of temporal structure has a long history dating back to ancient Greek philosophy. This domain is traditionally conceived of as lexical, rather than grammatical, as it is concerned with the inherent temporal information conveyed by verbal forms.

The temporal structure of lexical items is known by a score of names in the literature, including *Aktionsart*, *lexical aspect*, *situation aspect*, *objective aspect*, and *inner aspect*, as discussed in works by Dowty (1972; 1977), Mourelatos (1978), Smith (1983; 1991), Dahl (1981), Bach (1986). Following a recent tradition, the present work refers to the same notion as *actionality* (Arkadiev 2011; Bertinetto & Delfitto 2000; Johanson 1999; Tatevosov 2002).

In spite of adopting the label *actionality*, the expression *lexical aspect* will be initially employed in order to better highlight the characteristic perspective adopted by pioneering works on the topic.

This section discusses two distinct approaches to actionality, from the time the concept first dawned in ancient Greek philosophy to more recent contributions on the topic. In particular, §7.4.1 illustrates the first approach, which focuses on the inherent temporal properties of verbs: §7.4.1.1 sketches Aristotle’s considerations on the topic alongside a modern reprise of Aristotelian themes in Vendler’s classic theory of “verbs and times”; §7.4.1.2 discusses Smith’s classification of situation types and their defining features; finally §7.4.1.3 presents some diagnostic criteria for the individuation of situation types. Section §7.4.2 introduces the second approach to actionality, which assumes a compositional view of aspect, expanding

the domain of actionality outside the verb; finally, §7.4.3 focuses on some of the factors which determine a shift in the actional interpretation of a clause.

§7.4.1. Verbs and times

The idea that verbs can be classified on the basis of their inherent temporal properties was first elaborated in ancient Greece, where Aristotle's considerations set the frame for much of the discussion to come. Some of Aristotle's insights were retrieved and significantly expanded upon by Vendler in the 1950s. Vendler's work in turn became extremely influential and spanned a plethora of further classifications. A thorough review of such classifications is beyond the scope of this work. For this reason, the discussion is confined to a brief illustration of Aristotle's ideas, the classification put forward by Vendler, some further refinement proposed by Smith, and a number of diagnostics for the identification of situation types.

§7.4.1.1 Classic views

Aristotle is credited with having laid the foundations for the study of the inherent temporal properties of verbal forms by individuating a distinction between *energeiai* 'actualizations' and *kineseis* 'movements' (Binnick 1991; Graham 1980: 117; Mourelatos 1981).

This distinction did not simply stem from intuitions but would rely upon linguistic criteria instead. The main question was: "is a description of the action in the perfect tense true at the same time as a description in the present tense?" (Graham 1980: 117). Aristotle noticed that the answer is a positive one in the case of 'actualizations', but a negative one as far as 'movements' are concerned. It is important to emphasise that this distinction relates to inherent temporal semantics of

verbs and is crucially not associated with overt morphological marking, which is usually the case with grammatical aspect instead.

In spite of the coarse-grained classification proposed by Aristotle, the role of linguistic tests within his theorisation is perhaps the most long-lasting contribution he made to this field.

The reliance on linguistic tests for the definition of ontological categories has inspired more recent contributions, first and foremost, the work of the American philosopher Zeno Vendler (1957; 1967), who brought these issues within the focus of modern linguistics. Vendler aimed to provide a temporally-sensitive ontological classification of situations, and, more specifically, a classification of verbs based on their inherent temporal properties. His focus on language is apparent from the title chosen for what was to become his most famous publication on the topic, namely *Verbs and Times* (Vendler 1957).

Vendler's classification is based on the linguistic behaviour of English verbs, using such defining features as the possibility for a verb to appear in the continuous form, the set of entailments triggered by similar syntactic constructions, the set of entailments that one and the same verb may yield depending on the different syntactic configurations it appears in, the co-occurrence of similar constructions with different sets of temporal adverbials.

Four types of verbs may be distinguished, each of them being classified depending on the “particular way in which that verb presupposes and involves the notion of time” (Vendler 1957: 1). These four types are named *states*, *activities*, *achievements*, and *accomplishments*.

The first linguistic distinction discussed by Vendler is the one between verbs that can appear in the continuous form and those which cannot: the former includes such

cases as *running* and *drawing a circle*, whereas the latter is said to include *knowing* and *recognising*, among others.

Verbs belonging to the first group (i.e. those which can have continuous form in English) can be further distinguished on the basis of the entailments they generate. Saying that *someone is running* entails that *someone has run*, regardless of how long that process took place for; on the other hand, saying that *someone is drawing a circle* does not entail that *someone has drawn a circle* (Vendler 1957: 145). As Vendler phrased it, “while running or pushing a cart has no set terminal point, running a mile and drawing a circle do have a *climax*, which has to be reached if the action is to be what it is claimed to be” (Vendler 1957: 145).

This yields a first contrast between *activities* (e.g. running) and *accomplishments* (e.g. drawing a circle), linguistically transparent in the set of adverbials that may occur with either group: activity verbs are compatible with ‘for how long’ adverbials, whereas accomplishment verbs are compatible with ‘in how long’ adverbials.

(7.5) Compatibility of activities and accomplishments with adverbials

Katie run for/*in ten minutes	(activity)
John slept for/*in a couple of hours	(activity)
Mark made the dish *for/in ten minutes	(accomplishment)
Sarah baked a cake *for/in an hour	(accomplishment)

As mentioned above, verbs belonging to the second group (i.e. those which cannot have continuous form in English) include *knowing* and *recognising*, which are regarded as paradigmatic examples of categories which Vendler calls *states* and *achievements*: the former take place over time, whereas the latter are momentary.

Furthermore, states do not show any internal difference, i.e. each moment is

identical to any other moment within a stative situation; moreover, they do not require any energy input in order to continue.

Similarly to what happens with stative situations, activities presuppose duration and internal homogeneity. However, activities differ from states due to the continuous input of energy required. In addition to these ontological differences, activities differ from states with regard to a linguistic property too: activities can receive progressive form in English, whereas, states are not easily accepted in the progressive (also seen above).

(7.6) Activities and states vis-à-vis the English Progressive

Rob is watching TV	(activity)
Steve is playing the guitar	(activity)
*Mark is loving muffins	(state)
*Alexander is knowing Mike	(state)

Achievements differ from states and activities since they have no duration: they are momentary. Furthermore, they also uniquely have an endpoint which coincides with the situation itself, and which results into a following state or activity. Accomplishments are characterised by having an internal endpoint too; however, this consists in the culmination of a long-lasting situation, rather than in the standing out of a moment.

Some achievement verbs may actually appear in the progressive, but this does not contravene what was said above: in fact, whenever the progressive is used with such verbs, the situation highlighted by the progressive verb form precedes the actual situation, to which the verb itself (strictly speaking) refers. In other words, the use of the progressive form with achievement verbs highlights whatever stage occurs

before the situation itself. This differs from the use of the progressive with *accomplishment* verbs, as this targets stages occurring *within* the situation instead.

(7.7) Scope of progressive with achievements and accomplishments

John is reaching the summit	(achievement)
The old man is dying	(achievement)
Mark is making the dish	(accomplishment)
Sarah is baking a cake	(accomplishment)

Vendler's theory sparked a renewed interest in the relation between language and time, and, most importantly, shaped the discussion for the following decades. A number of similar classifications have been elaborated, including contributions by Dowty (1972; 1977), Mourelatos (1978), Smith (1983; 1991), Dahl (1981), Bach (1986).

§7.4.1.2 *Situation types and their defining features*

Among more recent publications on aspect, a highly-influential production is the one by Smith (1983; 1991). Her work analyses *situation aspect* (i.e. actionality) as being determined by the interplay of three binary oppositions, namely the features *dynamic/stative*, *durative/momentary*, and *telic/atelic*. Each situation type arises out of the combination of these binary features: in principle, this generates a system of eight situation types; however, the system is reduced to five elements, since three types are deemed to be impossible. The only addition to the categories individuated by Vendler is the *semelfactive* type.

The binary features described by Smith are essentially those present in Vendler (1957) already. The first opposition between *dynamic* and *stative* relates to whether a situation needs any energy input or not.

The second opposition between *durative* and *momentary* distinguishes situations taking place over time from those which are essentially conceived of as being punctual.¹³³

The third opposition between *telic* and *atelic* is arguably the most important and controversial one. The term *telicity* was introduced by Garey (1957) and indicates that a situation possesses an intrinsic culmination point, a moment which signals a decisive discontinuity in the situation. The nature of this culmination point has been lengthily debated. The main positions vis-à-vis the topic may be summarised by the contrasting notions of inherent endpoint and arbitrary boundary. The notion of telicity has often been confused with *perfectivity*, a category which belongs to grammatical aspect.

§7.4.1.3 Situation types and diagnostic criteria

An important question in the literature on situation aspect concerns the criteria upon which situation types may be classified. It was remarked that the need for a linguistically-relevant classification was one of the factors inspiring Vendler's work.

In this sense, an influential contribution is Dowty (1979), which expanded on Vendler's work and elaborated a number of diagnostic tests for identifying situation types, including criteria such as compatibility with temporal adverbials and being able to function as the complement of verbs *stop* and *finish*. The full list of criteria

¹³³ The important aspect seems to be their being 'conceived of' as punctual, rather than their actual punctuality. Cf. Comrie (1976).

alongside the results yielded when combined with different situation types are shown below (from Dowty 1979: 60):

(7.8) Dowty's diagnostics¹³⁴

	Criterion	STA	ACT	ACC	ACH
1	meet non-stative tests	no	yes	yes	?
2	has habitual interpretation in simple present tense	no	yes	yes	yes
3	ϕ for an hour, spend an hour ϕ ing	OK	OK	OK	bad
4	ϕ in an hour, take an hour to ϕ	bad	bad	OK	OK
5	ϕ for an hour entails ϕ at all times in the hour	yes	yes	no	d.n.a.
6	x is ϕ ing entails x has ϕ ed	d.n.a.	yes	no	d.n.a.
7	complement of <i>stop</i>	OK	OK	OK	bad
8	complement of <i>finish</i>	bad	bad	OK	bad
9	ambiguity with <i>almost</i>	no	no	yes	no
10	x ϕ ed in an hour entails x was ϕ ing during that hour	d.n.a	d.n.a.	yes	no
11	occurs with <i>studiously</i> , <i>attentively</i> , <i>carefully</i> , etc.	bad	OK	OK	bad

These diagnostics have proved an influential way of testing for actional-type affiliation. However, some authors have claimed that these criteria do not withstand closer scrutiny. Among the criticisms is the claim that Dowty's diagnostics do not actually test for actional characteristics of verbs but focus on different phenomena instead, such as agentivity (Walková 2012).

¹³⁴ Glossary (Dowty 1979: 60): STA = states; ACT = activities; ACC = accomplishments; ACH = achievements. OK = the sentence is grammatical, semantically normal; bad = the sentence is ungrammatical, semantically anomalous; d.n.a. = the test does not apply to verbs of this class.

Another interesting work on the topic is Klein (1994), according to which, three main diagnostics for verb classes are found in the literature: *adverb modification*, *aspect modification*, and *presuppositions and implications* (Klein 1994: 33ff.). However, there are problems with these tests and he devotes some space to discussing adverb modification. The *for x-time* adverbial is known to only be compatible with atelic situation types, but no explanation has ever been given as to why it is incompatible with what he calls *events*, i.e. telic actional types (Klein 1994: 34-35, 184ff.): after all, events do have duration, or, as he puts it, “events last”. He suggests that telic situations consist of a source state (SS) and a target state (TS), each of them associated with a time span. The adverbial modification cannot apply to both states at once, and is usually disallowed altogether, although it is possible for the target state only to be modified in certain circumstances.

For example, a verb such as *to die* belongs to a class of predicates which cannot be meaningfully modified by durative adverbials since they cannot be ‘right-bounded’ temporally: the state of being dead cannot be reversed, so one cannot *die for x time*. Notice the difference with a clause such as *Can we open the window for five minutes?* in this case, the durative adverbial does not measure the situation of opening, i.e. the time (however little) that it takes for the window to be opened, but it measures the duration of the target state. Similar examples are *to turn the TV on for a few minutes*, *to go to the park for an hour*, etc.

Klein (1994) also provides an interesting analysis of the meaning of temporal adverbials and their significance to the study of aspect and actionality. Klein states that, in addition to tense and aspect marking, the use of temporal adverbials (e.g. *yesterday*, *after the autopsy*, etc.) represents one of the possibilities to express

temporality in languages (1994: 142-43).¹³⁵ He distinguishes three main types of temporal adverbials (Klein 1994: 149): 1) positional adverbials (TADV-P) “specify time spans in relation to other time spans”; 2) temporal adverbials of frequency (TADV-Q) “indicate the frequency of temporal entities”; 3) temporal adverbials of duration (TADV-D) “specify the duration of temporal entities”.

This section has provided a preliminary illustration of lexical aspect, including some popular classifications of situation types and the diagnostic tests upon which those classifications are based. This section has assumed that the verb is the only vector of actional content, but the next section presents analyses which explicitly challenge this view.

§7.4.2 Compositional approaches to aspect

The discussion has so far assumed that situation types are defined at the lexical level, with each verb providing unambiguous aspectual information. However, the situation is not this straightforward. Some simple examples suffice to show that one and the same verb may appear in two clauses which seem to be actionally different:

(7.9) *John ran*

(7.10) *John ran to the park*

The act of running has no inherent limit and should be classified as an activity. However, adding a goal to an activity turns this into a bounded situation, and an activity which reaches its own culmination point is an accomplishment. This means

¹³⁵ The other two possibilities he mentions are temporal particles (e.g. Chinese *le*, Tok Pisin *bai*, etc...), and compound expressions (e.g. *to run on*, *to continue to run*, etc...).

that one and the same verb may participate in clauses differing as to their actional character.

This makes it problematic to state that the actional character of a clause stems from the verb's inherent temporal properties, since a particular verb may appear within different syntactic or semantic configurations,¹³⁶ and this may in turn correlate with a range of actional meanings: to this regard, Mourelatos (1981: 196) talks of “semantic multivalence”.

The awareness that there may be no straightforward one-to-one relation between a verb and an actional type seems to have been present in Vendler's work already, as the author recognises that verbs may “call for two or more time schemata” (Vendler 1957: 144). Nevertheless, Vendler is not concerned with establishing whether any particular verb has a primary time schema and derived ones or whether the solution is of a different nature, and these considerations will only be developed in subsequent publications by other scholars.

One of the crucial issues concerns a verb's contribution to the actional character of a clause. Two main approaches have been adopted in the literature (cf. Verkuyl 2005: 203). The first one consists in claiming that the verb has a basic actional meaning, whereas derived meanings can be generated by certain rules: these secondary meanings would be selected when, for example, the argument structure is modified. This approach was adopted by Dowty (1972; 1979). Dowty assigns each verb to a particular Vendlerian class and introduces rules which operate onto the basic meaning of the verb. These rules are defined as transfer rules by Verkuyl, and these are regarded as “precursors of the type-logical instruments developed in Partee and Rooth 1983 under the name of coercion rules” (2005: 206).

¹³⁶ The phrase *to play the sonata* can be either telic or atelic, depending on its interpretation.

The second approach consists in assuming that a verb has a constant actional meaning: the actional character of a clause would be assembled by the joint contribution of actionally-relevant items, including the verb itself. This solution was first adopted by Verkuyl (1972), a work which is usually credited with having sparked a whole new approach to the topic, with the observation that the verb is not the only source of actional information, but other elements of the clause should be considered as well. Vendlerian¹³⁷ classes can still be maintained provided they are defined at a higher level than the lexical (i.e. verbal) one. In other words, “it is not the verb alone which should account for its aspectual nature, but rather higher level structures such as the VP [...]” (de Swart & Verkuyl 1999: 4).

The need for moving beyond an atomistic view of lexical aspect had been felt by earlier authors too. Verkuyl refers to Hendrik Poutsma and Hermann Jacobsohn as his “aspectual heroes of the late twenties”, since, in spite of the limitations of the linguistic theory of their time, they “were well-aware of the non-atomic nature of aspectual information” (Verkuyl 2005: 202). It was the notion of phrase structure and the advent of syntactic trees which eventually made it possible to establish a *compositional* view of aspect (Verkuyl 1972).

A compositional view of aspect is now widely-accepted in the literature, hence the need to be careful when handling a potentially-ambiguous label such as *lexical aspect*.¹³⁸ The following section casts a closer look to those actionality-shifting factors mentioned above.

¹³⁷ That is, taxonomies structured along the lines defined by Vendler.

¹³⁸ Once a compositional view of aspect has been accepted, one of the central questions concerns the nature of the predicate: can a verb still be assigned to a particular class? That is, do verbs have a primary interpretation (in which case they would be lexically specified by situation type, whereas rules determining situation-type shift would have to be identified) or are they under-specified instead? If verbal items are aspectually specified, then compositional aspect would subsume lexical aspect by

§7.4.3 Actionality-shifting factors

A compositional approach to actionality relies on the idea that factors such as argument structure, quantification, adverbials, and pragmatics (among others) contribute to the actional value of a clause.

The role of argument structure in determining the actional characteristic of a clause is well-documented in the literature. A first case consists in actionality changes induced by the properties of Subjects (Mourelatos 1981: 199). For instance, plurality may induce a distributive reading of a situation: when an achievement predicate is used in combination with a Subject with plural reference, this is likely to generate a durative interpretation (i.e. a distributive one); in other words, the plural subject triggers an interpretation which overrides the momentary actional value provided by the predicate. For instance, a clause such as *the crowd entered the cinema* is not interpreted as if the whole crowd entered at once, but as a durative situation coming to an end at the time the last person entered the cinema. In this example, *crowd* is a mass noun, and a discussion on the role of count and mass nouns will be provided later on in this section.

In addition to the function of Subjects in actionality shifts, better-studied cases concern the role of Objects and Obliques. An activity may be turned into an accomplishment by explicitly indicating a lower argument which sets a final boundary to the otherwise-unbounded activity itself. For example, *walking* is an unbounded activity, but *walking to the park* is an activity with a well-defined

accepting the idea that a verb is inherently linked with a specific time schema but stating that aspectuality goes beyond lexical specification and includes the abovementioned factors for a full determination of sentential aspectuality.

endpoint, i.e. an accomplishment. In this case, a goal is added to the activity of walking and this is expressed by a prepositional phrase. In other cases, a patient or a theme may be added instead, also providing an inherent endpoint to the activity: this can be seen in the actional difference existing between *drinking* (activity) and *drinking a glass of water* (accomplishment).

The addition of a semantic argument changes the actional characteristic of the clause. This can be seen in the fact that *walking to the park* and *drinking a glass of water* may occur with an ‘in X-time’ adverbial, whereas *walking* and *drinking* can only occur with a ‘for X-time’ adverbial: this means one may *walk to the park in ten minutes*/**for ten minutes* but can only *walk for ten minutes*/**in ten minutes*: if the boundary is not spelled out or cannot be retrieved from the context, the ‘in X-time’ adverbial cannot be used with such verbs.

The argument providing an actionality-sensitive boundary ‘measures’ the event: the longer the situation lasts, the closer to its inherent conclusion one gets: such an argument is known as an *incremental theme*. There are three types of incremental themes: path, affected object, and change of state.

The fact that an object is present does not ipso facto identify it as an incremental theme. An object may simply fail to provide an inherent endpoint to the activity predicated by the verb, as in *John is stirring the soup* or in *The donkey is pulling the cart*: these are both activities since their objects (i.e. *the soup* and *the cart*) are not incremental themes: there is no point at which a soup can no longer be conceivably stirred or a cart pulled. These differ from the examples seen above, where the predicate indicates that the object undergoes a change of state.

Another important factor having an effect on the actional interpretation of a clause consists in the distinction between count and mass nouns. This distinction

often correlates with the telic / atelic contrast, in that a count noun is likely to be an incremental theme, providing an inherent boundary beyond which the situation expressed by the predicate cannot continue, whereas a mass noun fails to provide the specific quantity necessary to the existence of an inherent boundary. The use of a count noun is then generally associated with telicity and the use of a mass noun with atelicity.

A clear treatment of the count/mass nouns distinction is provided by Verkuyl (2005). A count noun specifies a quantity whereas a mass noun does not do so: these are indicated by the features [+SQA] and [-SQA], respectively. These features apply to both NPs functioning as Subjects and to NPs functioning as Objects.

Languages may express a count / mass distinction in overt or covert ways: in other words, they may formally mark or neutralise such a distinction. An overt expression consists in simply marking count and mass nouns in different ways. For example, the difference between definite-plural and bare-plural nouns in English is one between count and mass nouns. Bare plurals are often associated to mass nouns, and these two noun types behave alike with regard to the actional interpretation of a clause.

On the other hand, one and the same clause may be actionally ambiguous: a definite noun is not necessarily a count noun and the distinction between a telic or atelic reading may be formally neutralised, as in clauses such as *Mary played the sonata* or *John mowed the lawn*. The actional ambiguity of these sentences may be seen when the usual diagnostics are employed: with regard to the first sentence, both *Mary played the sonata in 30 minutes* (telic) and *Mary played the sonata for 30 minutes* (atelic) are possible. Follow-up lines to the sentence may be “it was superbly performed throughout” (telic) and “she kept playing the same few notes

over and over again” (atelic). If the Progressive operator is added, the ambiguity remains: the fact that “she is playing the sonata” does not entail that “she has played the sonata” in its telic reading, but it does entail that as long as an atelic interpretation is meant.

In Verkuyl’s terms, this ambiguity would stem from the fact that *the sonata* may be conceived of as either [+SQA] or [-SQA]. In spite of the fact that a definiteness marker is compatible with either reading, the telic interpretation arises by conceiving of the object as expressing a specific quantity, as opposed to the atelic one, which seems to rely on the fact that an unspecified subpart of the sonata stands for the whole sonata. This is tantamount to saying that the argument *the sonata* may be interpreted as a count noun or as a mass noun: in the first case, it is an incremental theme, in that, the longer the playing goes on for, the closer we get to the conclusion of the sonata; in the second case, the sonata is not seen in its totality, but, similarly to what happens with mass nouns, it is merely treated as an unspecified quantity standing for the whole.

As for the fact that both ‘in X-time’ and ‘for X-time’ adverbials may be used with this sentence, it is the atelic reading of *Mary played the sonata* which is selected when ‘for X-time’ is added, whereas the telic reading is targeted when ‘in X-time’ is used.

Pragmatics too is known to affect actionality, one case in point relating to the denotational properties of a verb’s arguments. For example, a notion such as iterativity is a function of the denotational properties of those arguments and the particular adverbial used in the clause.

The sentence *he recited the second Sura of the Qur’an for an hour* is actionally ambiguous: depending on the personal pronoun’s identity, iteration will seem to be

more or less plausible. For example, *an emeritus professor of Islamic studies* and *a first-year student of Arabic* would not contribute to triggering an iterative interpretation in the same way. Similarly to a mathematical function, several elements need to be considered in order to understand the correct interpretation of the clause: a knowledge of the fact that *the second Sura of the Qur'an* is a very long text makes it possible to hypothesise an iterative reading within the given time span, as long as the referent is someone well acquainted with the text (e.g. *an emeritus professor of Islamic studies*); at the same time, an iterative reading may be ruled out with other referents (e.g. *a first-year student of Arabic*).

Compositional views of aspect often go as far as blurring a clear distinction between grammatical aspect and lexical aspect, which are regarded as two of the ‘ingredients’ (Verkuyl 2005) intervening in aspectual composition, alongside a number of other factors. For example, according to Mourelatos (1981: 199), six factors are responsible for the overall aspectual character of a clause, namely: “a) the verb’s inherent meaning; b) the nature of the verb’s arguments, that is, of the subject and of the object(s), if any; c) adverbials, if any; d) aspect; e) tense as phase (e.g. the perfect); f) tense as time reference, to past, present, or future”.

However, this is not the approach followed in this dissertation, which on the contrary regards grammatical aspect and actionality as separate notions.

§7.5 Considerations on subjectivity and objectivity

Before providing a detailed illustration of the particular two-component theory of aspectuality used in this work, it is worth addressing some issues concerning the notions of subjectivity and objectivity.

These notions have often been associated with viewpoint and situation aspect, respectively. The very definitions of viewpoint and situation aspect often rely on the postulation of seemingly subjective and objective factors, respectively (Smith 1991). On the one hand, viewpoint aspect is claimed to be subjective in that it expresses the speaker's viewpoint on some situation, i.e. his or her decision to conceive of a situation as a totality or to make reference to its internal structure. On the other hand, situation aspect would be objective in that the speaker is given no such freedom, but lexical choices simply convey their internal temporal structure. However, as pointed out by some authors, this is misleading, for these considerations are too simplistic (cf. Johanson 2000: 31).

Assigning subjective character to viewpoint aspect is misleading as it relies on the supposed optional character of aspectual selection. However, discourse function may simply make it necessary to select one aspectual form over another. For instance, if Perfective marking is assumed to encode the sequentiality of events on the main story line, then there seems to be no space for conceiving of the Perfective as a subjective category: once events have been individuated on the time axis, the narrator is forced to use Perfective marking. In other words, a discourse-based theory of grammatical aspect implies that some objective element in aspectual selection does exist (Johanson 2000: 31).

As for actionality, a subjective element underlies any categorisation of a specific situation, that is, a particular interpretation among other possible ones. The mere observation that a man is holding a pen and using it to make signs on a piece of paper can in principle lead to different interpretations which differ in terms of actionality. For example, one may say that the man in question is *writing* (an activity), without committing to a judgement of telicity, that is, without imposing

any limit to that activity of writing: perhaps we are dealing with a professional writer, someone for whom writing is an everyday activity.

Alternatively, one may say that the man is *writing a letter*, if there is a (subjective) intention of referring to a notion which is deemed worth expressing (e.g. that he is writing a letter rather than carrying out his general activity of writing). This is ultimately a choice on the part of the speaker, who chooses between equally-available categorisations of phenomena.

In addition to actionality-sensitive modification of argument structure, one and the same situation may be expressed by telic or atelic predicates, which are deemed to be synonymous (Verkuyl 2005). All this suggests that a situation is not uniquely definable as telic or atelic, but different readings are available instead.

In other words, a decision is first made on the part of speakers as to how to categorise the world. This decision has to do with their intention of emphasising or glossing over certain facets of real-life situations. As Johanson puts it, “even the choice of the actional content relies upon the encoder’s conceptualization of the event and does not reflect the real world objectively” (Johanson 2000: 31).

§7.6 Aspect / actionality interface

The previous sections have provided an overview of the main literature on grammatical aspect and actionality. This section illustrates the particular theory adhered to in this work on Ayt Atta Tamazight.

A two-component theory of aspectuality is adopted in this work. The term *aspectuality* is here used as a cover term for grammatical aspect and actionality, which are nevertheless regarded as separate notions.

Two influential works assuming a two-component theory of aspectuality are Klein (1994) and Johanson (2000). These works are illustrated in what follows.

§7.6.1 A time-relational account of tense and aspect

An approach which radically differs from most treatments of the aspect/actionality interface is proposed by Klein (1994), which offers an account of temporal and aspectual meanings in terms of time relations. Klein's work moves away from and explicitly criticises two influential sets of theories, namely the so-called 'standard theory of tense' and three-parameter theories of the kind put forward in Reichenbach (1947). An illustration of Klein's arguments is given below.

The standard theory of tense relies on two temporal parameters, usually referred to as S (time of speech) and E (time of event). According to Klein, there is general agreement in the literature on the fact that the standard theory of tense cannot provide a good account of complex tenses such as the pluperfect, since these seem to require three parameters instead (i.e. they need to include some reference time: cf. Reichenbach's theory, discussed below).

Nevertheless, the standard theory is usually deemed to be sufficient to account for basic temporal relations such as present, past, and future (Klein 1994: 21). In other words, there is consensus on the fact that any system having more than three tenses cannot be properly explained by the standard theory, but the theory itself is still regarded as adequate for the account of basic time relations. This is essentially the position maintained by Comrie in his classic works on Tense and Aspect (1976: 1-2; 1985). Klein proves all this to be far from flawless, since even simple cases show the theory's limitations.

For example, someone uttering the sentence *They found John in the bathtub. He was dead* does not aim to say that John's being dead precedes the time of utterance: it is not the relation between event time and speech time which is relevant for tense selection (Klein 1994: 22-23).

Klein's approach is somehow reminiscent of the influential theory put forth by Reichenbach (1947), although it diverges from it in some important respect. Similarly to earlier suggestions on the topic,¹³⁹ Reichenbach proposed the adoption of a 'third time parameter', the so-called *reference time*. His theory aimed to provide a solid explanation to complex-tense phenomena such as the above-mentioned pluperfect, in that a reference time R was added to a speech time S and an event time E.

In Reichenbach's terms, a sentence such as *When Mary came to the party, John had left* is analysed as follows: S is the time of speech, R is the time at which *Mary came to the party*, and E is the time at which *John (had) left*. However, in other cases R is not the time of some other event, but is simply a time indicated by the sentence, as in *At nine o'clock, Mary had left the building*, or it is unclear what it refers to, as in *Some of us had expected it for ages. But now, it is a fact: John has left his wife* (Klein 1994: 25-26).

Dissatisfied with the vague concept of 'reference time', Klein abandons the notion altogether, replacing it with the kindred notion of Topic Time: this is the time for which an assertion is made (Klein 1994: 37). Reichenbach's 'event time' is also discarded and the Time of Situation is adopted instead, which consists in the time at which a situation holds or an event takes place: this is as close as Klein's theory gets

¹³⁹ Klein remarks that "Reichenbach was not the first to make this proposal" (Klein 1994: 19).

to the notion of actionality, but the two notions are indeed very different, as shown further below.

In the clause *The light was on*, “a distinction is to be made between the time at which the light was on, on the one hand, and the time for which such a claim is to be made, on the other” (Klein 1994: 3): these two different times correspond to the Time of Situation and the Topic Time, respectively.

Klein states that temporal and aspectual interpretations can be easily accounted for in terms of two different types of time relations, overall involving three separate times, namely the Time of Utterance (TU), the Topic Time (TT), and the Time of Situation (TSit). Tense is the category arising from the relation between the TU and TT, whereas aspect stems from the relation between TT and TSit.

The fact that the crucial relation for a full account of tense is the one between TU and TT is shown by a number of examples. These also show how even basic temporal relations were not adequately captured by the standard theory.

Let’s consider a book written in Russian. If there is a book on a table in the morning and a boy happens to talk about it in the afternoon, he is likely to say something like “I saw a book on the table this morning. It *was* in Russian”. Klein wonders why it is the past form *was* which is used in this context: after all, common knowledge tells us that the language of publication is a stable property of a specific book.

As Klein explains it, the rationale for past-tense selection is not the fact that the situation precedes utterance time: in fact, past tense is chosen since the claim put forward is about a time preceding utterance time. A stative situation such as a book’s language of publication is likely to still apply at the time of utterance too but this is irrelevant to tense selection, since the zoom is on a specific time only (located

in the past, in this example). In Klein's terms, TT (Topic Time) precedes TU (Time of Utterance), hence the choice of past tense.

The standard theory would fail to provide an adequate account of such cases, or, rather, it would fail to capture the motivation of past-tense selection in a sentence such as *the book was in Russian*, since, presumably, the book *is still* in Russian. This means it is the time for which the assertion is made rather than the time at which a situation takes place which is relevant for tense selection.

Another example freely based on Klein (1994) concerns a crime scene. If someone is summoned to court and swears that *the man was dead*, the selection of past tense should not be seen as motivated by an intention to say that the situation took place before the time of speech: in fact, the situation presumably extends its own validity into the present and the future. Again, what is relevant is the fact that the person is making a claim concerning the past and the past only: TT precedes TU.

As for the use of the future tense, Klein provides the following example (1994: 23): if A and B are at the same location, and A is about to leave with the intention of going back to the same place later on in the evening, he/she may ask: *Will you be here at eight?* B's answer could be *Yes, I will be here*. In this context, the use of the future tense is not meant to indicate that the time of situation follows the time of utterance, since in this context those two times obviously coincide (i.e. the person is there at utterance time too). The future tense aims to assert something about a future situation: it is the fact that TT follows TU which justifies the use of the future.

The illustration of Klein's theory has so far discussed tense. The category of aspect is explained in a similar fashion. As mentioned above, the difference between tense and aspect lies in the times which enter into a relation: tense is a relation

between Time of Utterance and Topic Time, whereas aspect is a relation between Time of Situation and Topic Time.

Depending on whether TT contains, is contained within, precedes, or follows TSit, different types of aspectual relations arise. In traditional terms, these relations may be referred to as Perfective, Imperfective, Prospective, and Perfect: as Klein stresses, “these definitions are strictly in terms of temporal relations” (Klein 1994: 108).

In the case of the Perfective, TSit is contained within TT, which means that the situation is conceived of as complete, regardless of whether this means it has come to its inherent conclusion or not.

In the Imperfective, the opposite situation stands: it is TT which is contained within TSit, and this means that one is asserting something about a time included in a situation, whose initial and final boundaries are not targeted. This obviously alludes to seeing the Imperfective as an internal viewpoint, reminiscent of the parade metaphor put forth by Isačenko (mentioned above).

The Prospective aspect highlights the stage preceding the situation, as in the English expression *to be going to do sth*. On the other hand, the Perfect focuses on the stage following a situation, as in English *to have done sth*.

Klein’s approach is arguably insightful, since it makes it possible to capture a wide variety of tense-aspect phenomena in a simple and elegant way. The aspect/actionality interface is reconfigured as a relation between time spans, namely the Topic Time and the Time of Situation.

However, Klein’s theory seems to fail to provide an adequate account of the observed compatibility of Perfective verbs with stativity and present-time reference in Berber. This is shown in what follows.

A large number of Berber verbs may receive a stative interpretation in the Perfective. Furthermore, these verbs are temporally ambiguous, since they have a default present-time interpretation but may also receive a contextually-based past-time reading.

The latter seems to be compatible with the time-relational theory proposed by Klein. His analysis of the perfective crucially relies on the notion of change: the perfective expresses the effectiveness of the transition from a state to one which follows, i.e. it indicates that a transition has occurred. The transition has nothing to do with the notion of telicity: it is compatible with typically-telic verbs but it may also consist in an arbitrary boundary (see above).

The two states assumed by a Kleinian account of the perfective may be characterised in two different ways. First, they may be encoded by the verb itself (Klein's 2-state predicates): this is the case with verbs which lexicalise a change of state, such as *open* and *close*, among others. The perfective of these verbs indicate that a transition from e.g. the state of being closed to the state of being opened has been achieved.

Alternatively, only one state is lexicalised by the verb (1-state predicates): this is the case with verbs such as *sleep*. The perfective of such verbs has scope over the transitional area straddling the stative situation encoded by the verb and its aftermath, i.e. the time at which the previous state no longer holds.

However, it is not clear how Klein's theory could account for the verb's present-time reference interpretation.

The Berber verbs singled out above are not bounded in any obvious way: these verbs simply have stative meaning and it is hard to see how TT could include TSit,

since in order for this to happen, the situation should come to an end (regardless of whether an inherent endpoint or an arbitrary boundary is meant by that).

A solution rescuing a Kleinian approach to the analysis of these Berber verbs consists in claiming that their present-time reference is simply an entailment: a past-time event is interpreted as having current relevance. This is a definition of the perfect, as found in Comrie (1976) and also compatible with the interpretation of the perfect discussed in Klein (1994: 111-13). This allows for retaining a past time reference interpretation of these verbs and this is compatible with them being assigned Perfective aspect.

A similar analysis of Berber's Perfective Stative verbs in terms of entailment of present relevance is put forward by Galand (2010). Indeed, Galand's view goes as far as hypothesising that even the Perfective of stative verbs such as *ili* 'be, exist' might be thought of as expressing the continuing relevance of more or less recent events. However, this is not a mainstream position in Berber studies, and earlier works by Chaker (1983), Mettouchi (2004), and Guerssel (1985) openly depart from such a view.

§7.6.2 Johanson (2000)

The theory elaborated in Johanson (2000) provides an insightful analysis of the correlation between grammatical aspect and actionality. The focus is on European languages but the theory illustrated in his work certainly represents a major contribution to a typological approach to the analysis of the aspect/actionality interface.

Johanson claims that "viewpoint and actionality parameters interact to the effect that the meanings of the resulting items are interpreted in terms of the scope of the

former parameters over the latter” (2000: 30). Each set of parameters constitutes a major departure from the nomenclature established in the field, although the underlying concepts are compatible with the tradition that goes back to Comrie (1976).

In particular, Johanson’s theory hinges on the key notions of *transformativity*, *terminativity*, and *focality*. These three notions are discussed in what follows.

Transformativity and terminativity are more than simple reformulations of the long-studied concepts of telicity and viewpoint aspect (Johanson 2000: 59).

The notion of transformativity differs from the one of telicity in that the latter refers to the properties of ‘actions’ whereas the former refers to properties of actional phrases.

Verbs may be grouped into *transformative* and *nontransformative* items, represented as [+t] and [-t], respectively, depending on whether the notion of transformation is part of their lexical representation or not. Transformative verbs may be further subdivided into initiotransformatives ([+ti]) and finitranformatives ([-ti]), according to whether the transformation precedes a resulting state or follows an initial state.

The novelty of Johanson’s approach is also evident in his treatment of viewpoint aspect, with the introduction of the notion of *terminativity*. This is further subdivided into three binary categories, namely intraterminativity ([±INTRA]), adterminativity ([±AD]), and postterminativity ([±POST]).

A viewpoint is [+INTRA] if it highlights the internal portion of a situation, a phase placed between the situation’s initial and final boundaries (its *termini*). It is [-INTRA] if no such internal viewpoint is adopted.

A viewpoint is [+AD] if it focuses on the actual completion of a lexically-specified boundary, that is, if it indicates that an inherent endpoint has been reached, causing the situation to terminate. It is [-AD] if no such boundary is indicated.

A viewpoint is [+POST] if it focuses on the stage which comes after the end of a situation, whereas it is [-POST] if no such focus is meant.

The third fundamental notion introduced by Johanson is that of *focality*. This represents a significant innovation which allows for the expressions of even more distinctions pertaining to the aspect/actionality interface. The concept relates to the degree of psychological relevance of a situation. A terminative category may express various degrees of focality, depending on whether the highlighted situation is perceived of as more or less psychologically relevant.

The combination of transformativity, terminativity, and focality allows for a refined treatment of aspectual phenomena. Furthermore, Johanson's system seems to provide a unified account of the perfective/imperfective opposition, since it allows for the distinction between two different types of perfectives (and, conversely, of imperfectives too), namely those expressing the crucial reaching of an inherent limit and those which simply express the notion of totality, regardless of any inherent boundary.

This agrees with typological considerations on the origin of tense-aspect systems, since two perfective types seem to exist, namely one which derives from earlier resultative/perfect constructions and one which derives from the use of special particles known as bounders, such as English *up* or *out* (as in *drink up*). The former is a Romance-type perfective, whereas the latter is a Slavic-type perfective.

Chapter 8

The Perfective and the Imperfective in AAT

This chapter describes the main properties of the Perfective and the Imperfective in Ayt Atta Tamazight. The aspectual system of Berber is characterised by a typologically-eccentric encoding of stativity, which has far-reaching consequences for the distribution of verb forms in narration, since the expected connection between, on the one hand, Perfective and dynamicity, and, on the other hand, Imperfective and stativity, is not borne out in AAT.

§8.1 The Perfective in AAT

Berber languages deal with the domain of stativity in three possible ways. The first two modalities are morphological, whereas the third one is purely semantic.

First, the morphological expression of stativity may occur via a separate Stative category: this affects a heterogeneous set of both verbal and pseudo-verbal items, characterised by some idiosyncratic morphological properties. This Stative category is (or was) attested across most of the Berber-speaking world and can be identified on different grounds.

Second, some dialects possess a dedicated stem for the morphological expression of stative or resultative meaning. This stem may be referred to as *Resultative* and

contrasts with the *Perfective* stem which mainly expresses dynamic situations instead.

This morphological modality is not alternative to the previous one, as shown by Tuareg varieties which display both. This is seen in the table below, based on Kossmann (2009), which details the distribution of stative marking across Berber:¹⁴⁰

(8.1) Formal marking of stativity across Berber

	Resultative Stem	Stative marking
Kabyle	NO	YES
Libyan Berber ¹⁴¹	YES	YES
Siwi	YES	NO
Zenaga (Mauritania)	NO	YES
Ighezran(eastern Middle Atlas)	NO	YES
Gourara	NO	YES
Ghomara (northern Morocco)	NO	YES
Medieval Tashelhiyt	NO	YES
Tuareg	YES	YES
Old Figuig	NO	YES
Ayt Atta Tamazight	NO	YES

The table clearly shows that the Stative has much wider distribution than the Resultative stem.

Finally, the morphological expression of stativity can also be neutralised, and exist on purely semantic grounds. Some dialects do not have a separate Resultative

¹⁴⁰ For Medieval Moroccan Berber, cf. Chaker (1995). The presence of a Stative category in Old Figuig is mentioned in Kossmann (2009: 158). Information concerning Ayt Atta Tamazight is based upon from the author's fieldwork (SM).

¹⁴¹ I.e. Ghadames, Awjila, Nefusi, Sokna (Kossmann 2009: 158).

stem but convey stative meaning by using the Perfective stem instead: Ayt Atta Tamazight belongs here.

The conflation of dynamic and stative meaning into a single morphological form (i.e. the Perfective) does not allow for a neat identification of verbs into two distinct groups, namely dynamic verbs and stative verbs. In fact, one and the same Perfective verb form may be semantically ambiguous, allowing for both a dynamic and a stative interpretation. In other words, the distinction between dynamicity and stativity is still present in these dialects, although it relies more on the semantic interpretation of Perfective verb forms than on overt morphological marking. These considerations on stativity assume central importance in order to understand the distribution of aspectually-marked forms in AAT discourse.

Chapter 7 has explained how some of the properties of the Perfective make it an ideal vector of main storyline information in narrative texts. Notions such as foregrounding and sequentiality are typically associated with Perfective marking cross-linguistically. On the other hand, backgrounded information often has an accessorial function, providing support to the main storyline in the form of comments, descriptions, and the like. The “sequentiality constraint is lifted” in backgrounded information and its elements are often freely allowed to be either simultaneous to main-storyline events or essentially atemporal (Hopper 1979). A sequentiality-based definition of the Perfective suggests that this category should not be employed in the provision of backgrounded information (cf. §7.3.1). Indeed, this seems to be the situation in more familiar European languages. Berber languages clearly behave differently in this domain.

This section investigates the distribution of Perfective forms in narration and aims to show how their frequent occurrence in background information is due to the close

association between stativity and Perfective in Berber. Section §8.1.1 illustrates the three abovementioned modalities for the expression of stative meaning; §8.1.2 discusses the consequences of the compatibility between Perfective marking and stativity on discourse structure; §8.1.3 provides some conclusive remarks.

§8.1.1 Stativity in Berber and in AAT

There are three modalities according to which stative meanings are conveyed across Berber: this can occur morphologically, namely via the use of either a separate Stative category (§8.1.1.1) or a Resultative stem distinct from the Perfective (§8.1.1.2); however, the morphological encoding of stative meaning can also be neutralised (§8.1.1.3). These three different modalities are analysed in what follows.

§8.1.1.1 The Stative in Berber

Several Berber languages possess a class of stative items which receive an idiosyncratic morphological treatment. There is dialectal variation as to the type of items included in the Stative class: on the whole, this includes stative verbs and pseudo verbs.

Stative verbs are usually analysed as a special subset of Perfective verbs and referred to as Stative Perfectives, or *prétérits d'état* (Kossmann 2009), although the label is perhaps not ideal (cf. §8.1.1.1.2).

There are two main hypotheses concerning the origin of the Stative: according to some scholars, this class corresponds to the suffixal conjugation of Semitic languages; according to others, this is a Berber innovation, based on nominal stems (cf. Kossmann 2009: 157, which also provides references on the topic). Whichever the answer to the uncertainty surrounding its origin, the fact that the Stative is found

across the whole of Berber points to the Proto-Berber origin of the construction (cf. Taine-Cheikh 2003: 661).

The next two sections detail the morphological properties of the Stative and some terminological issues concerning this category, respectively.

§8.1.1.1.1 Morphological properties

The existence of the Stative as a separate class is most-famously attested in the Kabyle dialect continuum, but several other Berber varieties, including AAT, behave alike: these dialects possess a sizeable amount of verbal and pseudo-verbal stative items, characterised by some idiosyncratic morphological features, notably their incompatibility with ‘normal’ agreement markers (whose Ayt Atta reflexes were given in chapter 4).

The overview of the morphological properties of the Stative is based on Kabyle data, as this is the most-investigated and best-known variety to display this phenomenon. The other dialects possess Stative verbs which are characterised by similar marking, although some aspects remain obscure (for a comparative overview of the morphological properties of the Stative and a discussion of some issues concerning the reconstruction of forms in Proto-Berber, cf. Kossmann 2009).

The Kabyle Stative consists of a class of verbs which denote permanent states. However, not all permanent states are encoded by the Stative, as some items take the ‘normal’ conjugation. As for the morphological structure of Stative verbs, they possess two remarkable properties: first, these verbs differ from the Perfective forms in that they only take suffixes; second, these suffixes essentially coincide with direct object clitics. This may be noticed by observing the conjugation of the Stative verb *zeddig* ‘be clean’, which is provided below (from Kossmann 2009: 156).

(8.2) Paradigm of stative verb *zeddig* ‘be clean’

1SG	<i>zeddig-ey</i>
2SG	<i>zeddig-eɖ</i>
3SG.M	<i>zeddig</i>
3SG.F	<i>zeddig-et</i>
1PL	<i>zeddig-it</i>
2PL.M	<i>zeddig-it</i>
2PL.F	<i>zeddig-it</i>
3PL.M	<i>zeddig-it</i>
3PL.F	<i>zeddig-it</i>
PTCP	<i>zeddig-en</i>

The most evident fact is that the 3SG.M form is zero-marked. This may lend support to Taine-Cheikh’s suggestion that, at least in Zenaga, this construction indicates inflected adjectives (cf. Kossmann 2009: 157; Taine-Cheikh 2003).

However, what is arguably the most interesting fact is the formal similarity between the idiosyncratic suffixes employed by this construction and the direct object clitics. This observation has generated some debate over the past few decades. Aikhenvald (1995) provides the most-explicit analysis of these verbs as functioning according to an ergative/absolutive alignment.¹⁴²

As for Ayt Atta Tamazight, the morphological marking of stativity is a residual phenomenon. The only traces of the Stative as a separate category come from what have been referred to as *pseudo-verbal items*. This is a heterogeneous collection of functionally-different items, including words functioning as existential negators. The

¹⁴² In fact, Aikhenvald’s hypothesis not only concerns Stative verbs but Stative pseudo-verbs too play a role in her analysis. Reference to ergativity is found in works preceding Aikhenvald’s, e.g. Chaker (1983: 303-304).

list includes items such as *laḥ* ‘there is not’, *walu* ‘there is not’, and *manza* ‘where’. These particles are followed by the object clitics, as in *walut* ‘there is none of it (M)’.

Aside from these items, the Stative appears to have left no traces in AAT. Verbs expressing permanent qualities or states are formed just like all other verbs, as detailed in chapter 5.

§8.1.1.1.2 Terminological issues

A class of stative verbs is found in a number of Berber languages. They are usually analysed as a special subset of Perfective verbs and referred to as Stative Perfectives, or *prétérits d’état* (Kossmann 2009). The present work refers to these verbs as belonging to a ‘Stative’ category instead. There seem to be good reasons not to refer to this category by the term ‘Preterit’, whereas ‘Perfective’ would be a more acceptable option. In fact, the term ‘Preterit’ is often employed in Berber literature not only with regard to this Stative category but also to indicate what is referred to in this work as the ‘Perfective’. Indeed, the label ‘Preterit’ certainly boasts a long tradition within Berber studies, being found even among leading scholars such as Basset (1952: 13) and Kossmann (1997; 2009), among others.

Nevertheless, adopting this name seems to be problematic, since these Stative verbs (alongside the similarly-behaving Perfective verbs) are by no means restricted to past-time reference, whereas the preterite “covers the three semantic fields of perfective past, imperfective past, and counterfactuality” (2000: 277). Stativity is a category pertaining to aspectuality rather than tense, so ‘Perfective’ or ‘Stative’ seem to be more suitable names than ‘Preterit’. The rejection of the term ‘Preterit’ is essentially the position also found in Galand (2010: 223).

The rationale for the preference of ‘Stative’ over ‘Perfective’ (and/or other labels) may be articulated as follows. First and foremost, it is worth remembering that ‘Stative’ and ‘Perfective’ identify notions pertaining to two different domains, namely actionality and grammatical aspect. Therefore, they can in principle be combined, which means ‘Stative Perfective’ is a viable option.

However, the existence of Perfective verbs having stative value (cf. §8.1.1.3) suggests that talking of a ‘Stative Perfective’ category could be ambiguous and generate confusion. This suggests that the easiest option is to refer to the verbs discussed in this section as simply *Stative verbs*, which seems to present a number of advantages.

First, the name makes reference to their distinctive semantic feature, as they include items characterising permanent states (Kossmann 2009: 157). Second, Stative verbs are conceived of as complete situations, i.e. they express perfective value: they do not contrast with any Imperfective counterpart, which means that indicating their perfective nature in the nomenclature is somehow redundant. Third, some of their idiosyncratic morphological properties are also relevant to the description of pseudo-verbal items, items to which the application of the label ‘Perfective’ is more problematic.

The adoption of the term *Stative* has then the advantage of being more comprehensive, as it embraces a wide range of phenomena.

§8.1.1.2 Perfective stem and Resultative stem

The second morphological modality which allows for the expression of stative meanings consists in the use of a Resultative stem distinct from the Perfective. This

construction is only attested in Tuareg and Eastern Berber varieties, which show some noteworthy differences in the formation of Perfective and Resultative stems.

In Tuareg, the Resultative is based on the modification of the Perfective stem. In most cases, this occurs via the combination of stress placement and vocalic lengthening (for more details about stem formation, cf. Heath 2005; Kossmann 2011: 63). The following table shows the formation of the Resultative stem (the ‘Long Perfective’, in Kossmann’s terminology) in Ayer Tuareg, (Kossmann 2011: 63):

(8.3) Formation of Resultative (‘Long Perfective’) in Ayer Tuareg

Perfective	Long Perfective	
<i>əlmăd</i>	<i>əlmád</i>	‘learn’
<i>əgǎr</i>	<i>əgár</i>	‘throw’
<i>əlša</i>	<i>əlšá</i>	‘wear’
<i>əkḵās</i>	<i>əkḵás</i>	‘take’
<i>olăm</i>	<i>olám</i>	‘start again’
<i>əɣwís</i>	<i>əɣwís</i>	‘cry out’
<i>əqqətās</i>	<i>əqqítās</i>	‘be cut’

The Resultative stem is formed differently in Eastern Berber. This involves suffixation of a particle to the basic Perfective stem, as the following Siwi Berber example shows (Souag 2010a: 390):

- (8.4) *y-uná*^{PFV}-*ya* *i-təkkəs*^{IPFV} *lanjas*
 ‘He has gone up and is picking pears’

In (8.4), the use of suffix *-a* (here realised as its allomorph *-ya* due to a preceding stem-final vowel) marks the fact that “the man was still up on the ladder at the moment of speech (Souag 2010a: 390). Souag analyses this suffix as expressing a

core notion of ‘relevance’, i.e. relevance to a “different, more current situation” (Souag 2010a: 391).

A closely-related structure is also attested in another Eastern Berber variety, namely the one spoken in Awjila (Paradisi 1960: 157). This involves the resultative clitic =*a*, or its allomorph=*ya* (cf. van Putten 2013: 84). Other Eastern Berber varieties are much less documented; however, the construction did not seem to be attested in the (now presumably extinct) Libyan dialect of El-Fogaha (Souag 2010a: 391).

This illustration of the Resultative stem shows that this construction is restricted to two branches of Berber and these two branches form the stem according to different morphological processes. These facts point to separate innovations and seem to exclude the Proto-Berber origin of this verbal category.

§8.1.1.3 Polysemy of the Perfective

The main challenge to a characterisation of the Perfective in Berber consists in the fact that a large class of Perfective verb forms yield a stative and a dynamic/inchoative (i.e. change of state) interpretation at once. These two values do not only divide verbs into items having stative value and items having dynamic value: there exists a large group of verbs where one and the same item may at once receive a stative and an inchoative interpretation. The possibility for this to happen seems to be lexically encoded, as only some verb classes display it. This has been investigated in Berber literature: for example, Chaker (1983) provides a long list of verbs displaying this phenomenon in Kabyle. Any attempt to motivate this behaviour on the grounds of some specificity shared by all of the members of such verb classes has not been met with success.

§8.1.1.3.1 Actionally-coherent verbs

Two large groups of verbs are actionally coherent, i.e. they have unambiguous interpretations. The first group includes verbs which can only be interpreted as having stative value. They have flexible time-reference, being not tightly associated with a specific temporal dimension. They can be easily understood as either having present-time or past-time reference, depending on the presence of contextual clues.

The second group includes verbs which only allow for a dynamic interpretation. The class of dynamic verbs is obviously very numerous, as it includes all non-stative verbs. Its members may express a variety of actional meanings, including activities, achievements, and accomplishments. These verbs tend to have past-time reference in the Perfective, i.e. they denote a completed situation. An example is provided below (cf. Kossmann 1997):

- (8.5) *i-nyt*^{PFV}
 ‘He killed’

The verb in (8.5) only lends itself to a dynamic reading.

An important subclass of dynamic verbs is represented by verbs of motion.

§8.1.1.3.2 Actionally-ambiguous verbs

The former section has sketched the properties of verbs which are unambiguously characterised as being either stative or dynamic. There is another large group of verbs which display some special properties, namely each of them allows for both a dynamic and a stative interpretation. These verbs are here tentatively referred to as *dynamic/stative* (henceforth D/S) and the alternation they participate in is

consequently named *D/S alternation*. The dynamic interpretation is not simply dynamic, since it entails some transition into a resulting state. There are several classes of verbs displaying a D/S alternation.

The phenomenon of dynamic/stative alternations can be seen at work in the following example from Figuig (Kossmann 1997: 351):

- (8.6) *immut*^{PFV}
 ‘He is dead / he died’

As the previous clause shows, this alternation type shows some correlation with time reference: the dynamic interpretation is not compatible with present-time reference and is normally associated with past-time reference, whereas the stative reading may receive present-time reference, but other temporal interpretations are possible too.

The presence of D/S alternations is attested in several varieties across Berber. The widespread distribution of this phenomenon suggests its Proto-Berber character. These alternations are widely discussed in the literature (Chaker 1983; Guerssel 1986; Mettouchi 2004).

One of the questions raised by the existence of these verbs is whether either interpretation is primary, whereas the second meaning would be derived from that primary one. Two main positions are attested in the literature. On the one hand, Galand believes that the dynamic interpretation is primary: the original transition into a state is conceived of as entailing that the resulting state still holds (Galand 2010).

On the other hand, other scholars support the primacy of the stative interpretation over the dynamic one (Chaker 1983; Mettouchi 2004). A stative clause is regarded

as the mere expression of a “fact of existence” (Chaker 1983). No triggering event should be assumed as part of their lexical representation: such verbs do not express resulting states, but simply states. In other words, a merely stative interpretation is favoured over a resultative one.

§8.1.1.4 Conclusions on stativity in AAT

The previous sections have shown that stativity is a prominent category in Berber. Ayt Atta Tamazight does not possess a Resultative stem for the expression of stative/resultative meanings, in the way Tuareg or Eastern Berber varieties do. Nevertheless, AAT shows the formal neutralisation of stativity in the Perfective, which results in three different semantically-characterised groupings of verbs, namely those being unambiguously stative, those being unambiguously dynamic, and those being ambiguous between a stative and a dynamic interpretation.

§8.1.2 The Perfective in Berber discourse

The association between grammatical aspect and the foregrounding or backgrounding of events in discourse has been illustrated in chapter 7. The Perfective typically glosses over the internal complexity a situation may have, treating it as an indistinct whole, almost reducing it to a logical point. These properties make it similar to a solid object (Janda 2004). The properties of the Perfective allow for the temporal chaining of events pertaining to the main storyline, just like beads are chained along a necklace.

On the other hand, the Imperfective is used in order to provide background information, consisting in comments and descriptions; in other words, the Imperfective is used for those linguistic expressions which somehow interrupt the

narration of events on the main storyline, almost placing the narration itself in standby-by. This suggests that Perfective correlates with advancement of time, whereas time stops if an Imperfective form is used instead.

The connection between grammatical aspect and discourse structure in Berber is not unreported. For instance, according to Kossmann (2011: 147), an association between the Resultative stem (in his terminology: the Long Perfective) and backgrounded information seems to exist in Ayer Tuareg. Nevertheless, the correlation between aspect and discourse structure has not been investigated in Berber and represents the purpose of this section.

Data from Northern Tamazight shows the compatibility between background information and Perfective marking. A good example is found in the text given by Penchoen (1973: 88).

(8.7) *iwa ddun^{AOR} grin^{AOR}-ṭ yər-yun-umazir illan^{PFV.PTCP} i-ssəḥra ibɛəḍ^{PFV} bəzzaf
zəg-g^wansa nna i illa^{PFV}*

‘Then they went and threw him to a country in the Sahara very far from the place he had been’

Interestingly, there are several Perfective forms in this passage (Penchoen refers to the Perfective as ‘Perfect’, cf. Penchoen 1973: 30). The excerpt reproduced here starts with two Aorist forms, namely *ddun* ‘they went’ and *grin(-ṭ)* ‘they threw (him)’, with this last verb followed by what appears to be a goal argument (‘to a country’). This argument is followed by two Perfective forms, namely *illan* and *ibɛəḍ*. Both verbs have stative meaning: the first verb is a Perfective participle and is not translated at all, whereas the second is a Perfective form translated as ‘very far’. These provide comments about the place to which the person was taken: in other

words, these Perfective forms do not take the story forward but simply provide supportive material. As for the last Perfective form, it is translated by a Past Perfect form, since it encodes a flashback, i.e. the narrative time is suspended and actually reversed: again, this represents one more instance of diversion from the main storyline.

What these data suggest is that the Perfective is compatible with the expression of supportive material. In particular, Perfective verb forms may have an adjective-like function (cf. Dixon & Aikhenvald 2004). Indeed, a comparison between English and Berber immediately shows that the expression of states seems to occur in radically-different ways in these two languages: in English, states find their natural expression in copula constructions with adjectives, whereas in Berber, the expression of states as seen in this section is achieved by verb-like items.

§8.1.3 Conclusive remarks

Section §8.1 has discussed the properties of Perfective in Berber and in AAT. Similarly to the situation attested in many other Berber varieties, Perfective forms may be divided into three groups, namely verbs which always have stative meaning, verbs which always have dynamic meaning, and verbs which are compatible with both a stative and a dynamic interpretation. Verbs from the last group suggest that a similar semantic distinction to the one morphologically marked in Tuareg and Eastern Berber varieties is here formally neutralised.

In particular, the compatibility between Perfective and stativity has represented the cornerstone of this investigation, which has shown the presence of background-encoding Perfective forms in narrative discourse.

§8.2 The Imperfective in AAT

This section provides a basic description of the Imperfective in Ayt Atta Tamazight. There are three main uses of the Imperfective in this variety. First, the Imperfective may be used alone; the corresponding construction will be here referred to as the *bare Imperfective*. Second, the Imperfective stem is used in combination with a number of preverbal particles, which express meanings pertaining to the TAM domain. In particular, two particles appear with the Imperfective in Ayt Atta, namely *da* and *ar*. The two constructions involving these particles and the Imperfective stem will be here referred to as *da-IPFV* and *ar-IPFV*, respectively.

The bare Imperfective will only receive cursory notes in this work and a more detailed analysis is postponed to a later occasion. After briefly sketching its use (§8.2.1), an investigation of the semantic difference between *da-IPFV* and *ar-IPFV* is undertaken (§8.2.2).

§8.2.1 Bare Imperfective

The bare Imperfective is rarer than the other two constructions mentioned above, and seems to have at least two uses. First, it expresses simultaneous events: if both events are durative, the first one will be introduced by particle *kud* followed by the Imperfective, whereas the second one will be a bare Imperfective:

- (8.8) *kud* *j-kkat* *w-mzil* *j-ttlmad* *mmmi-s*
 while 3SG.M-hit.IPFV DS-smith 3SG.M-learn.IPFV son-SG.POSS
 ‘While the blacksmith works, his son learns’

In (8.8), the second Imperfective form is not preceded by any TAM particle.

Second, the bare Imperfective occurs in interrogative clauses introduced by question words such as *matta* ‘what, which’, as in the following examples:

- (8.9) *matta w-ħanu ɛf t-sawal-t?*
 Q DS-room over 2SG-talk.IPFV-2SG
 ‘Which room are you talking about?’

- (8.10) *matta t-Ø-wuri j-skar ijma = k*
 Q F-DS-work 3SG.M-do.IPFV brother = 2SG.M.POSS
 ‘What work does your brother do?’

- (8.11) *majd j-skar luqt nnaɛ g = as t-sawl-t*
 Q 3SG.M-do.IPFV time MED at = 3SG.DAT 2SG-talk.PFV.2SG
 ‘What was he doing at the time you talked to him?’

§8.2.2 *da-IPFV and ar-IPFV*

The relation between *da-IPFV* and *ar-IPFV* is sometimes assumed to be one of free variation, at least in some varieties, since no noticeable difference has reportedly been found between these two constructions: for instance, this is the case in Old Tashelhiyt (cf. Boogert 1997: 279-80).¹⁴³

Ayt Atta speakers seem to partially subscribe to this assumption, a frequent initial intuition being that there is no difference between the meanings conveyed by these two particles.¹⁴⁴ For example, virtually all of the Ayt Lfrsi people questioned during fieldwork regard the clauses in (8.12) and (8.13) as having the same meaning, both

¹⁴³ Van den Boogert also states that there is a third particle which has the same meaning of *da* and *ar*, namely particle *aɛ*. Furthermore, he also discusses particle *a*, which is analysed as an allomorph of *ar* (van den Boogert 1997: 280). Since neither *aɛ* nor *a* seem to occur in Ayt Atta, the present dissertation will not discuss these two particles.

¹⁴⁴ At least when the clause has past-time reference. This will be further explained below.

referring to habitual past events; in other words, *da* and *ar* are claimed to be used interchangeably:

(8.12) *zman da j-tddu s ssuq ku Ø-ass*
 past TAM 3SG.M-go.IPFV to market every AS-day
 ‘He used to go to the market every day in the past’

(8.13) *zman ar j-tddu s ssuq ku Ø-ass*
 past TAM 3SG.M-go.IPFV to market every AS-day
 ‘He used to go to the market every day in the past’

However, a closer glance into the distribution of *da*-IPFV and *ar*-IPFV suggests that these two constructions possess fundamentally-different values. One of the main differences is that only *da* can be used for the expression of ongoing situations in the present, whereas only *ar* can be used for durative situations in the past. A more detailed illustration of their properties is undertaken in what follows.

§8.2.2.1 *da*-IPFV

This construction seems to be attested over the whole Tamazight-speaking area and it was found in Old Tashelhiyt as well (Boogert 1997). However, some important dialectal variation exists. In Ayt Ndhir (Northern Tamazight), it is only used when “dependency conditions” apply, e.g. after the negative particle *ur*; whereas the particle used in non-dependency conditions is *la* (Penchoen 1973: 42).¹⁴⁵ Particle *da* is not found at all in more divergent varieties such as the Zenati (i.e. non-Tamazight) dialect spoken by the Ayt Seghrouchen, where *lla* is found alongside *al* in combination with the Imperfective stem.

¹⁴⁵ Or its variant *lla* in other dialects, e.g. Ayt Ayache (Abdel-Massih 1971).

As for its semantics, several meanings are attributed to it in the literature. In Ayt Ndhir, *la / da* are used for the expression of habitual, durative, or repetitive situations, and for the utterance of general truths, but they can also be used in order to convey progressive meaning and express ongoingness and becomingness (Penchoen 1973: 42). A radically-different analysis conceives of their cognate particles in Ayt Ayache as present tense prefixes (Abdel-Massih 1971).

The *da*-IPFV construction appears to have two main uses in Ayt Atta: it can express both ongoing situations having present-time reference and non-future habitual situations (whereas *qad*-IPFV is used for future-time reference with habitual value). The following AAT data have habitual interpretation:

- (8.14) *ka da=j-ttawj a-fullus ka*
 some TAM=3SG.M-take.IPFV AS-rooster some
da=j-ttawj t-a-nugud^ɛ-t ka da=jttawj
 TAM=3SG.M-take.IPFV F-AS-lamb-F some TAM=3SG.M-take.IPFV
a-ksum
 AS-meat
 ‘Someone takes a rooster, someone takes a lamb, someone takes meat’

§8.2.2.2 *ar*-IPFV

The other Imperfective-stem construction to be illustrated here is *ar*-IPFV. This consists in the use of particle *ar* followed by the Imperfective stem. As usual, a number of clitics may appear between these two elements.

This construction is realised as *al* + Imperfective in some other Berber dialects, for example in Ayt Seghrouchen (Bentolila 1981), Figuig (Kossmann 1997), and Ghadames Berber (Kossmann 2013a). According to Bentolila, this construction is confined to a non-initial position in the sentence: in his analysis of Ayt Seghrouchen

data, the combination of particle *a/* and the IPFV stem always follows a sentence-initial TAM-marked verb form (Bentolila 1981: 153). A similar situation is attested in Ghadames (Kossmann 2013a: 167).

The ar-IPFV combination has high frequency in both narrative texts and other types of AAT discourse. This construction may be found after both PFV and IPFV forms. This resembles the distribution of Bare Aorist verb forms (cf. §9.2). However, there are at least two main differences between ar-IPFV and the Bare Aorist: first, the former seems to indicate durative situations, as opposed to the latter where duration is certainly not a defining feature; second, ar-IPFV is also frequently found in sentence-initial position, as opposed to the Bare Aorist, which rarely is (cf. §9.2.1).

Some data support a sequential interpretation of ar-IPFV, whereas other data seems to be best interpreted as involving simultaneity. This contrasting evidence emerges from the examples provided below. A sequential interpretation is found in (8.15):

- (8.15) *j-kk* *a-brid* *ajffas* *ar* *j-ttini*
 3SG.M-visit.AOR AS-road right TAM 3SG.M-say.IPFV
 ‘[...] he took the road on the right and started saying [...]’

Other data point to the simultaneity value of ar-IPFV. This is most evident in sentences which combine the verb *af* ‘find’ with ar-IPFV, as in the following example:

- (8.16) *j-af=nn* *ja-n* *w-mkar*
 3SG.M-find.AOR = ITV DET.M DS-old_man
hat *ar* *j-ttzzu* *dllh*

PRES TAM 3SG.M-sow.IPFV watermelon
 ‘He bumped into an old man, he was sowing watermelons’

In (8.16), the interpretation is one of simultaneity, as one of the protagonists of the story comes across a man who is sowing watermelons: that is precisely what the man is doing at the time the protagonist bumps into him.

The existence of sequential and simultaneous interpretations of ar-IPFV suggests that this construction is best interpreted as merely expressing duration, whereas all other interpretations seem to be secondary, as they arise in context. This is in keeping with similar analyses put forward in the literature. For example, in his work on Ghadames Berber, Kossmann states that the inchoative interpretation of al-IPFV is “best considered an entailment of the sequence of a punctual and a durative event” (Kossmann 2013a: 167).

Furthermore, this is also compatible with another important observation about AAT. The data presented so far show non-initial instances of ar-IPFV, where this construction is preceded by either a Perfective form or da-IPFV. However, ar-IPFV may also be found sentence-initially in AAT, as the following example shows:

(8.17) *ḥan bnadm ar j-ttdza t-i-flu-t*
 PRES person TAM 3SG.M-knock.IPFV F-AS-door-F
 ‘There is the man who knocked on the door (several times)’

In (8.17), the speaker is pointing at the person who knocked on the door at some prior time. This form seems to mainly express the durative character of the situation. There is no notion of simultaneity expressed, nor is sequentiality relevant to its interpretation.

§8.2.2.3 Imperfective and discourse structure

The illustration of aspect in discourse undertaken in chapter 7 showed that there is a correlation between Imperfective aspect and background information in narrative discourse: the sequentiality constraint is lifted in background information, since descriptions, comments and other kinds of supportive material are not tied to the time axis in the way main storyline events are.

It is then perhaps surprising that the ar-IPFV construction is used for main storyline events and contributes to moving the narration forward. A more detailed illustration of the Imperfective in AAT is deferred to a later occasion.

§8.3 Conclusions

This chapter has described some of the main features of Perfective and Imperfective in AAT. Similarly to other Northern Berber varieties, AAT does not possess a separate Resultative stem for the encoding of stative situations, whereas its Stative plays a very marginal role in the system. Stativity is then mainly conveyed by Perfective verb forms, a strategy which is very much alive in AAT.

Stativity is here used as a cover term for meanings which are often cross-linguistically expressed by adjectives used in copula constructions (i.e. adjectives with predicative function). The fact that AAT possesses verb-like adjectives means that it is precisely these forms which are used for the expression of stative meanings. In particular, as far as the actionally-ambiguous Perfective forms are concerned, it is the stative interpretation that they may convey which is exploited for the provision of supportive material in narration.

Among other values, supportive material typically consists of background information, which enriches the narration with descriptions or comments concerning settings, characters, or situations, but it may also consist of flashbacks, in which case the Perfective functions similarly to the Past Perfect in English. A more detailed analysis of discourse structure in AAT narrative texts is deferred to future publications, but this chapter has at least aimed to indicate some directions for further research.

As for the Imperfective, this verb stem too shows some typologically-unusual properties, in that the ar-IPFV construction seems to be used for encoding durative events which are able to stand on the main storyline and move the narration forward. A more detailed investigation of the Imperfective is certainly necessary in order to better understand its function in discourse.

To summarise, the interaction between Perfective and stativity in AAT means that Perfective forms are often used for the expression of supportive material, which diverges from the situation attested in many other languages, where only information which is on the main storyline tends to receive perfective marking. On the other hand, the Imperfective in AAT seems to be able to encode main storyline events, as it moves a story forward: this was described as an important property of perfective verb forms cross-linguistically.

This means that AAT narrative texts show two typologically-unusual facts, namely the presence of Perfective marking and Imperfective marking for the expression of supportive material and main storyline events, respectively. The next chapter shows how things are further complicated by discourse structure requirements.

Chapter 9

The Aorist in AAT

The category known as *Aorist* has been the object of much attention in Berber literature (Galand 1987; Galand 2003; Kossmann 2002; Mettouchi 2002; Taine-Cheikh 2009). The name is deeply established within Berber studies and for this reason it is retained in the present work. Nevertheless, it is important to remark that the label *Aorist* is perhaps unfortunate, for it bears no resemblance to the Ancient Greek category from which its name ultimately derives, or to the homonymous category found in some Slavic languages (Comrie 1976; Friedrich 1974).

The aspectual value of the Ancient Greek Aorist is well-understood in the literature, where it is said to express a combination of perfective aspect and past-time reference (cf. the Simple Past in Romance languages); indeed, the close association of the aorist with the perfective domain is well-established (cf. Bertinetto & Delfitto 2000: 190; Thieroff 2000: 277).

The Berber Aorist has a radically-different nature. For one thing, it possibly had aspectual value too at some earlier stage, when the significant contrast seems to have been the one between Aorist and Perfective, although the issue is debated: e.g. Galand believes the Aorist was aspectually “neutral” even at that time (Galand 2010: 232-33). Whichever the answer to this question, the Aorist cannot be said to have

aspectual value in modern Berber and should be treated as essentially indifferent to aspect (Galand 2010: 228). This observation is especially valid as far as Moroccan Berber is concerned, since the Aorist appears to simply convey the basic meaning of the verb in those varieties, without adding any extra semantic information.

In many Berber dialects, the Aorist verb form appears in two main configurations, each of them actually corresponding to a number of constructions. The first configuration shows the Aorist verb form with some preceding particle: this compound jointly expresses temporal and/or modal meanings. The main constructions of this type are sketched in §9.1.

The second configuration consists in the use of the Aorist form without any preceding particle: the present work mainly focuses on this configuration type. Two such uses of the Aorist are discussed in the literature and are here referred to as Free Aorist and Chained Aorist: their properties are illustrated in §9.2; then, an innovative analysis of Chained Aorist is put forward in §9.3, taking into account typological data while showing how this construction plays a fundamental role in discourse by expressing a number of context-dependent aspectual meanings and ensuring textual cohesion; §9.4 shows the relatedness of Chained Aorist and Free Aorist; finally, §9.5 provides some concluding remarks on the Aorist in AAT.

§9.1 The expression of tense and modality: TAM-AOR constructions

The label *TAM-AOR* is adopted in this work as a cover term for constructions combining a TAM particle and an Aorist verb form and to collectively refer to the actual forms themselves (to be illustrated in this section's subsections).

Most of these constructions diachronically derive from an earlier one in which the Aorist verb form was preceded by particle *ad*.¹⁴⁶ In fact, the *ad* plus Aorist form construction is still very much attested across Berber, as shown further below. However, particle *ad* has also merged with some phonological material issued from the grammaticalisation of various lexical items, yielding a number of ‘complex’ particles, whose forms and functions vary across dialects. In AAT, these complex particles include *rad* (~*ra*), *qad* (~*qa*) / *qannad* (~*qanna*), and *nnad* (~*nna*). Both *ad* and these particles may be used for the expression of meanings essentially pertaining to the domains of tense and mood.

The properties of each of these constructions are illustrated in what follows. The policy has been adopted to indicate actual constructions by simply placing a hyphen sign in between the relevant TAM particle and the label AOR, bearing in mind that clitics may intervene between the TAM particle and the Aorist verb form.

§9.1.1 *ad*-Aorist

A construction combining the TAM particle *ad* (~ *a*) with an Aorist verb form (henceforth *ad*-AOR) is widely attested across Berber. The main function of *ad*-AOR is the expression of *irrealis* mood: for instance, it is widely used for the expression of future events. A modal value is indeed recognised in the literature (Galand 2010: 257; Souag 2010a: 381ff.). Aspectual and temporal values are often associated with it. A good overview of recent literature on the topic is available in Belkadi (2013).

A number of dialects show alternative forms with similar *irrealis* semantics, e.g. *ga* and *da* in Siwi: use of *ga* and Aorist is said to have “*irrealis perfective*” value,

¹⁴⁶ The particle may be realised as *a* before verb forms starting in a consonant.

whereas *da* and Aorist express a “suggestative” value, “indicating a possible course of action that a third party might consider” (Souag 2010a: 381ff.).

Two examples of ad-AOR in Ayt Atta are provided below:

- (9.1) *ku jan ad j-amz^ʕ lhqq = nns*
 every one TAM 3SG.M-take.AOR share = 3SG.POSS.
 ‘Everybody is going to take his own share’

- (9.2) *ad ini-k?*
 TAM say.AOR-1SG
 ‘Shall I say (it)?’

In some varieties, the ad-AOR construction is used in discourse-medial position following an Imperfective form in procedural texts: for instance, this is the case in Siwi (Leguil 1986b). However, this does not apply to Imperfective constructions in Ayt Atta, as the rest of this chapter shows.

§9.1.2 *rad-Aorist*

Another widely-used TAM-AOR construction consists in the combination of particle *rad* (alternative form: *ra*) with a following Aorist verb form (henceforth *rad-AOR*). The particle has irrealis meaning and seems to be best characterised as expressing intention.

The first element of *rad* has undoubtedly derived from the grammaticalisation of the PFV form of the verb *iri* ‘want’, presumably from its third person masculine singular form *jra* ‘he wants, he wanted’. The particle’s dental element derives from *ad*: this is also evident from the fact that the fully-inflected form of the verb ‘want’

may still be used as an alternative to *rad*, possibly with some semantic difference, in which case the verb is necessarily followed by particle *ad*. This is seen in (9.3):

- (9.3) *ra-n* *ad* *ldudu-n*
 want.PFV-3PL.M TAM be_lukewarm.AOR-3PL.M
 ‘They need to be warm’

This example also shows the compatibility of the verb *iri* with non-volitional subjects, since the intended referent is here *aman* ‘water [PL]’.

The semantic difference between the verb and the particle issued from it is not clearcut. However, careful use of negation and entailments allow for the individuation of some meaningful differences between similar sentences, as shown below:

- (9.4) *ur* *ri-ɛ* *ad* *uru-ɛ* *jat* *t-Ø-brat-t*
 NEG want.NPFV-1SG TAM write.AOR-1SG DET.F F-DS-letter-F
 walajnni *ri-ɛ* *ad = ttit* *uru-ɛ*
 but want.PFV-1SG TAM = 3SG.F.ACC write.AOR-1SG
 ?? ‘I don’t want to write a letter, but I want to write it’

- (9.5) *ur* *ri-ɛ* *ad* *uru-ɛ* *jat* *t-Ø-brat-t*
 NEG want.NPFV-1SG TAM write.AOR-1SG DET.F F-DS-letter-F
 walajnni *rad = ttit* *uru-ɛ*
 but TAM = 3SG.F.ACC write.AOR-1SG
 ‘I don’t want to write a letter, but I am going to write it’

Both examples consist of two clauses. Sentence (9.4) shows a blatant contradiction, since one and the same propositional content is first asserted and then negated. On

the other hand, the acceptability of sentence (9.5) ultimately shows that there is a difference between the fully-inflected verb form and its grammaticalised counterpart: it seems that *rad* has no volitional element and can be used to essentially express an intention.

§9.1.3 qad-Aorist / qannad-Aorist / nnad-Aorist

The last three TAM-AOR constructions sketched here mainly refer to situations posterior to the reference time adopted. The first two constructions are here referred to as *qad-AOR* and *qannad-AOR*: they involve the use of particles *qad* and *qannad* (alternative forms *qa* and *qanna*, respectively) in affirmative and interrogative sentences. The third construction is referred to as *nnad-AOR* and involves the use of particle *nnad* (alternative form: *nna*) in negative sentences.

Particles *qad* and *qannad* share some evident properties, both in formal and semantic terms. From a formal point of view, their initial uvular element is likely to stem from the grammaticalisation of some lexical item, although no hypothesis as to what this element may be is put forward at this stage. As for the nasal element in *qannad*, this might derive from the grammaticalisation of the verb *ini* ‘say’ (cf. §6.2.4.9 and this section, below). Finally, the dental element found in both *qad* and *qannad* comes from the particle *ad* discussed above; in keeping with the properties of *ad*, both *qad* and *qannad* are followed by verbs in either the Aorist or the Imperfective form.

As for their semantic properties, both particles seem to have irrealis value, possibly combining a core meaning of future/posterior time reference with some modal semantics. The distinction in meaning is not clear-cut, although some

speakers believe that *qannad-AOR* points to future events whose realisation is deemed to be more likely to occur than those expressed by *qad-AOR*.

An example in which *qad* is used is given below:

- (9.6) *mɣ ufi-ɛ tʰtʰunubil qad ddu-ɛ*
 if find.PFV-1SG car TAM go.AOR-1SG
 ‘If I find a car I will go’

The last irrealis marker discussed here is *nnad*, which is used after negator *ur* in order to assert the non-realisation of some future event. This particle is likely to have evolved from the Perfective form of the verb *ini* ‘say’ (a similar development concerns the verb *iri* ‘want’, as discussed in cf. §9.1.2, above); this is suggested by the observation that a fully-inflected form of this verb can still appear after negator *ur* in semantically-similar sentences. However, judgements by native speakers differ as to whether there is equivalence between the clauses containing particle *nnad* and the ones displaying the inflected verb forms: according to some speakers, the latter have retained their lexical meaning, which means that their future value would simply be inferred. This is also the analysis adopted in the present work. The resulting difference in meaning is shown in the following two examples, below:

- (9.7) *ur nna ddu-ɛ*
 NEG TAM go.AOR-1SG
 ‘I will not go’

- (9.8) *ur nni-ɛ ad ddu-ɛ*
 NEG say.NPFV-1SG TAM go.AOR-1SG
 ‘I didn’t say that I will go’ (i.e. ‘I will not go’)

This brief overview has shown a number of constructions which are here grouped under the rubric TAM-AOR. These encode TAM meanings and for this reason they substantially differ from the Bare Aorist constructions to be illustrated in the next section.

§9.2 Bare Aorist constructions

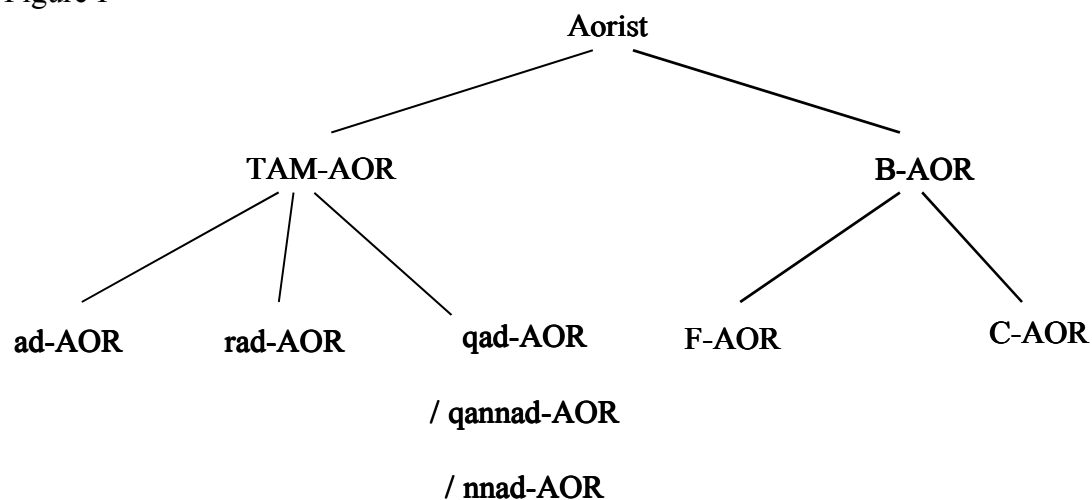
The present work adopts the expression *Bare Aorist* (henceforth B-AOR) as a cover term for constructions in which an Aorist verb form is used alone, i.e. it is not used in combination with a preceding particle.¹⁴⁷ This expression stands in opposition to TAM-AOR, which was described in the previous section.

The existence of two different constructions involving B-AOR forms makes it necessary to introduce a further terminological distinction, namely between a construction referred to here as *Free Aorist* (henceforth F-AOR) and one known as *Chained Aorist* (from French *aoriste enchainé*, henceforth C-AOR): these consist in the use of the Aorist verb form as an initial verb in a sentence and a non-initial one, respectively.

In other words, B-AOR refers to a construction type which subsumes two different structures, namely F-AOR and C-AOR. The entire set of constructions in which the Aorist verb form appears are then summarised in Figure I, below:

¹⁴⁷ This is known as *aoriste sans particule* in French-language publications on Berber (Galand 1987).

Figure I



The following sentences show examples of F-AOR and C-AOR in Ayt Atta and Kabyle (Chaker 1983: 229), respectively:

- (9.9) *ku ass j-uru t-a-brat-t*
 every day 3SG.M-write.AOR F-AS-letter-F
 ‘He would write a letter every day’

- (9.10) *F_y,^{IMP} t-fk-ɛ^{AOR} as t!*
 ‘Go out and give it to him!’

The Aorist verb form is not preceded by any other verb in (9.9), whereas it derives its TAM interpretation from a preceding Imperative form in (9.10).

The hypothesis put forward in this work is that F-AOR and C-AOR are simply different manifestations of what is essentially one and the same function. In what follows, the properties of F-AOR and C-AOR are illustrated, providing an overview of the literature on the topic, the thorough illustration and discussion of Ayt Atta

data, and a proposal aiming to provide a unified account of B-AOR constructions while bringing this phenomenon under the lens of linguistic typology.

§9.2.1 *Free Aorist (F-AOR)*

The F-AOR is a construction in which the bare Aorist form occurs as the first verb in a sentence. This structure is attested in several Berber varieties, albeit little used on the whole, whereas it is absent from some dialects such as Siwi (Leguil 1986a; Leguil 1986b; Souag 2010a: 385). The present section sketches the F-AOR construction in a number of Berber dialects and discusses how these constructions are analysed in the literature; then, it provides an illustration of F-AOR in Ayt Atta Tamazight. However, a full analysis of F-AOR is postponed until §9.4.

The first dialect considered here is Kabyle. In this variety, the F-AOR accounts for most uses of the B-AOR, although its presence is overall marginal both token-wise and genre-wise, being largely confined to poetic discourse (Chaker 1983: 227). The F-AOR construction has *injunctive* or *optative* value and is often found in prayers. Interestingly, the Aorist form of F-AOR constructions always seem to be associated with some other element, namely intonation (with a vocative element) or the preceding negative expression *a wr*. Fittingly, Chaker remarks how situational or contextual clues may justify the use of F-AOR (Chaker 1983: 228). This can be seen in the following example (Chaker 1983: 231):

(9.11) *a Sidi εabdRhman tRq ayrib s imawlan*

‘Oh Saint Abderrahman, bring the exiled back to his family’

This sentence differs from basic declarative clauses in having a clear vocative and hortative meaning. Structurally, it differs in that the verb does not appear clause-initially but is preceded by a vocative phrase.

The marginality of F-AOR constructions is also perfectly exemplified by the Mauritanian Berber dialect known as Zenaga (Taine-Cheikh 2009: 253-54). Taine-Cheikh states that only two occurrences of F-AOR were found in her corpus, both of them with habitual value and both of them after the adverbial expression *äkk-äššäbbäš* ‘every year’. Nevertheless, Taine-Cheikh suggests that “the use of a habitual aorist is likely not to be specifically related to the temporal expression *äkk-äššäbbäš*” (2009: 254).

Another dialect in which the B-AOR is attested is Tuareg. In Ayer Tuareg (Niger), the F-AOR construction seems to have two uses: on the one hand, it may be (albeit rarely) employed for the expression of “injunction and finality”, as the following example shows (Kossmann 2011: 152):

- (9.12) *ak_əwədən y-əgməy^{AOR} edäğ y-otäf^{PFV}*
 ‘Let everyone look (B-AOR) for a place to go inside (PFV)’

On the other hand, and here the author’s words are significant, it is found “when preceded by an element which establishes a time frame, or a phrase denoting temporality – either a subordinate clause or an adverb. In this case it refers to a habitual action” (Kossmann 2011: 155). This use can be seen below:

- (9.13) *əžil kəllu as tət_y-äffö^{PFV} s äyora, t-əkku^{AOR} tegmərt t-äny^{AOR}_äddu äṛät*
 ‘Every morning when the day started (PFV), she went (B-AOR) hunting and killed (AOR) something’

In this example, the B-AOR is preceded by a temporal adverbial clause whose verb is in the Perfective. It is not clear whether it is the initial Perfective form which motivates the following B-AOR, in which case it would function as C-AOR (cf. next section). The example is provided here for the sake of illustration.

In Tamashek, a Tuareg variety spoken in Mali, B-AOR constructions appear to follow some TAM-marked verbs (Heath 2005: 311-12). As this use does not fit with the definition of F-AOR assumed in the present work, such B-AOR structures are illustrated in the section on C-AOR constructions instead.

The use of F-AOR in Ghadames is reminiscent of the situation attested in Kabyle. The form is found in “injunctives” and “in proverbs and similar types of text” as shown in the following examples (Kossmann 2013a: 172-73):

- (9.14) *ǎššǎ^{AOR}-n-et*
 ‘Let them eat (B-AOR)!’

- (9.15) *abǎddǎdar y-ǎs^{AOR} = ǎd i bǎǧǧǎnǎn, y-ǎn^{AOR} = ǎsǎn: nǎšš ǧǎd-wǎn!*
y-as^{AOR} = ǎd i ǧǎdǎd, y-ǎn^{AOR} = ǎsǎn: nǎšš ǧǎd-wǎn!
 ‘the bat comes (B-AOR) to the rats and says (B-AOR): I am one of you!’
 He comes (B-AOR) to the birds and says (B-AOR): I am one of you!’

Other uses of the B-AOR in Ghadames Berber seem to be essentially sequential and are discussed in the next section.

As for Moroccan Berber, the F-AOR does not seem to enjoy a higher degree of vitality. Its presence is “marginal” in Ayt Seghrouchen, as it may be found in two cases only, notably after the adverbial *duČa* and in order to show “one’s indifference

towards an action which such and such character may carry out”; these two cases are shown below (Bentolila 1981: 150-51):

(9.16) *duČa Šbaḥ nṛaḥ^{AOR}*
 ‘Tomorrow we will leave’

(9.17) *ad ižr^{AOR} azru – ižr^{AOR} t*
 ‘He is going to throw the stone’ – ‘let him do it’ (i.e. ‘it’s all the same to me’)

In the first example, the F-AOR is essentially “equivalent to *ad + AOR*” (Bentolila 1981: 150).¹⁴⁸ The second example is composed of two clauses, uttered by two different speakers: arguably, the second utterance is strictly related to the first one so that, in the second case too, the presence of some previous element is then assumed: this makes it doubtful to state that this is an example of F-AOR.

As for the presence of F-AOR constructions in Tamazight, little information is available in the literature. In his grammar of Northern Tamazight, focusing on the dialects spoken by the Ayt Ayache (Atlas Berber) and the Ayt Seghrouchen (Zenati Berber), Abdelmassih characterises the grammatical system of Berber as expressing temporal, rather than aspectual meanings (Abdel-Massih 1971). The author goes on to state that “the aorist is a dependent tense that does not occur as sentence initial” (Abdel-Massih 1971: 199).

The few grammatical notes provided by Amaniss (2009) on Ayt Atta Tamazight do not provide any information about F-AOR constructions. However, corpus investigation and elicitation show that these are indeed attested in Ayt Atta as well.

¹⁴⁸ Bentolila has it “ad + A.”

The following clauses may be regarded as ‘initial’, in the sense that they do not logically follow any previous discussion and/or verb, but a new topic is introduced instead. In particular, the first clause was collected in elicitation, whereas the second one is part of an elderly woman’s recounting of past-time habitual practices. This shows that the B-AOR may be used in a non-chained context, i.e. it may function as F-AOR:

- (9.18) *ku Ø-ass j-uru t-a-brat-t*
 every AS-day 3SG.M-write.AOR F-AS-letter-F
 ‘He would write a letter every day’

- (9.19) *datɛima n-nkr g w-mzwaru nɛd llawkbar*
 sometimes 1PL-get_up.AOR in DS-Fajr_prayer or Allahu akbar
 ‘Sometimes we would get up at *Fajr* or at *Allahu akbar*’

In both cases, the B-AOR does not follow any other verb, i.e. it cannot be said to derive its aspectual interpretation from any preceding verb form. It is possible to notice the similarity with some of the data available on other dialects, notably with a couple of examples provided above, from Zenaga (Taine-Cheikh 2009: 254) and Ayer Tuareg (Kossmann 2011: 155), respectively.

A thorough discussion of these examples is postponed to §9.4. It will be shown that F-AOR constructions are a subtype of chained constructions, albeit of a special type. Before analysing such cases, this work undertakes a thorough illustration of chained-aorist constructions across Berber and in Ayt Atta Tamazight, putting forward an innovative interpretation of these phenomena which takes into account hitherto-neglected typological data.

§9.2.2 Chained Aorist (C-AOR)

The Chained Aorist (C-AOR) is a construction in which a bare Aorist verb form does not occur as the first verb in a sentence or in discourse but follows some other TAM-marked verb form instead, from which it derives its aspectual interpretation. The fact that it is a property of complex constructions is evident from observing the following three examples:

- (9.20) *j-dda* *s* *ssuqq*
 3SG.M-leave.PFV to market
 ‘He went to the market’

- (9.21) *j-akul=d*
 3SG.M-return.PFV = VNT
 ‘He came back’

The verbs in (9.20) and (9.21) are both Perfective forms and represent the normal way of expressing complete situations if they are considered separately. However, when the two clauses are joined together, the second verb can no longer be in the Perfective form:

- (9.22) *j-dda* *s* *ssuqq* *j-akul=d*
 3SG.M-leave.PFV to market 3SG.M-return.AOR = VNT
 ‘He went to the market (and) came back’

In (9.22), the second verb is marked with the Aorist, which is interpreted as having perfective value due to the fact it follows an initial Perfective form.

The C-AOR construction is widely attested in Moroccan Berber, while having more limited currency in other dialects such as Kabyle, whereas it is absent in Eastern Berber varieties such as Siwi (Galand 2010; Leguil 1986b; Souag 2010a: 385).

Fieldwork data shows that C-AOR is extensively used in Ayt Atta Tamazight, being found across all discourse types as well as in elicitation: its role is absolutely prominent and the Bare Aorist is arguably the most frequently-found verb form in any narrative text.

This section is organised as follows: the properties of C-AOR constructions in a number of Berber dialects are discussed first (§9.2.2.1); then, the focus moves onto Ayt Atta, whose C-AOR constructions are illustrated both formally (§9.2.2.2) and semantically (§9.2.2.3).

§9.2.2.1 Properties of C-AOR in Berber

Chained-Aorist constructions have received much attention in Berber studies over the past few decades (Bentolila 1981; Galand 1987; Galand 2003; Taine-Cheikh 2009). In particular, these structures were first thoroughly investigated in a work on the grammar of Ayt Seghrouchen, a Zenati dialect spoken in the Middle Atlas (Bentolila 1981).

Bentolila (1981) shows that the B-AOR never occurs as the first verb of a sentence (barring the few examples mentioned in §9.2.1) but always follows some other TAM-marked element, be it a TAM-marked verb (e.g. a PFV form) or a particle-verb compound (e.g. TAM particle *La* followed by IPFV form): these are henceforth collectively referred to as TAM-V.

Such initial TAM-V may be marked in a variety of ways, namely Perfective, Imperfective, Imperative, or ad-AOR (cf. Bentolila 1981: 153): this suggests that the bare Aorist form does not contribute any TAM feature of its own but is able to acquire an array of context-dependent interpretations.`

It is important to remark that the number of Aorist forms occurring after a sentence-initial TAM-V is by no means restricted to a single item. In fact, there may be several C-AOR forms chained to that initial TAM-V. Moreover, C-AOR is not the only chained form in Bentolila’s analysis, since the same behaviour is supposedly displayed by al-IPFV (cognate to Ayt Atta’s ar-IPFV). This chapter only focuses on C-AOR.

An example of B-AOR chained to a preceding TAM-marked verb is given below, from Bentolila’s data on Ayt Seghrouchen (Bentolila 1981: 156):

(9.23) TAM-V (V₁) – B-AOR (V₂) in Ayt Seghrouchen

iĠ La iTin^{IPFV} D Sa šhaq, yinas^{AOR} D Sa iequb

‘One says “Isaac” from here, the other replies “Jacob” from there’

This sentence is about two birds, the first one’s singing causes the other one to reply: the first verb is in the Imperfective and conveys the aspectual frame within which the following C-AOR should be interpreted (presumably, a habitual one). The use of chaining conveys the fact that a relation exists between the two situations.

Bentolila remarks that the Ayt Seghrouchen C-AOR construction does not stand in simple free variation with constructions where one or more non-initial verbs are fully marked, but it differs from those in a number of ways. First and foremost, C-AOR is said to express sequentiality, often coupled with an impression of rapidity, i.e. the abrupt change from a situation to the one immediately following it. In his

words, “when a chained form is used, the process is chained to the previous one, without any interruption – which may produce an effect of rapidity – appearing like its logical consequence” (Bentolila 1981: 154).

On the other hand, the use of two consecutive fully-marked verb forms precisely deny the sequential character of the situations being described, which are then independently located on the time axis, resembling “independent islets, with no relation to each other, no contact point” (Bentolila 1981: 153-54).

This entails that two different scenarios may occur, depending on which verbs occur in sentence-initial position (henceforth V_1) and in non-initial position (henceforth V_2). The first scenario is characterised by the presence of TAM-V in both V_1 and V_2 . On the other hand, the second scenario is characterised by a TAM-marked verb form in V_1 and a chained form in V_2 .¹⁴⁹ This is schematised as follows:

(9.24) Non-chaining constructions (1) vs. chaining constructions (2)

	V_1	V_2
(1)	<i>TAM-V</i>	<i>TAM-V</i>
(2)	<i>TAM-V</i>	<i>B-AOR</i>

As the table shows, only the second scenario is an instance of C-AOR construction.

The previous schema allows for a number of combinations. These are listed in (9.22), which is loosely inspired by a similar one found in Bentolila’s work (1981:

¹⁴⁹ This is a partial, selected representation of the distribution of TAM-V and chained forms which deliberately omit al-IPFV forms. As mentioned above, chained forms include both C-AOR and ar-IPFV in Bentolila’s analysis. Bentolila assumes that ar-IPFV differs from the C-AOR in terms of duration, and receiving its aspectual interpretation from a preceding fully-marked verb. The ar-IPFV construction is illustrated in §8.2 and will not be discussed any further in this chapter.

153). The categories in the table are Ayt Seghrouchen ones, which show minor formal differences from the ones attested in Ayt Atta:¹⁵⁰

(9.25) Distribution of verb forms in V₁ and V₂ in Ayt Seghrouchen

V ₁	V ₂
<i>IMP</i>	<i>IMP ~ B-AOR</i>
<i>ad-AOR</i>	<i>ad-AOR ~ B-AOR</i>
<i>PFV</i>	<i>PFV ~ La-IPFV ~ B-AOR</i>
<i>La-IPFV</i>	<i>La-IPFV ~ PFV ~ B-AOR</i>
<i>*B-AOR</i>	

The table shows that V₁ can only be occupied by TAM-marked forms, whereas the B-AOR cannot occur there. On the other hand, no such restriction applies to V₂, which may be occupied by either TAM-V or B-AOR.

A few examples of Ayt Seghrouchen non-chaining constructions are provided below (Bentolila 1981: 153):

(9.26) PFV (V₁) – PFV (V₂) in Ayt Seghrouchen

išt tudr^{PFV}, *išt tužl*^{PFV}, *išt tuZl*^{PFV}

‘One is sunk in the ground, one is suspended in mid air, one goes fast’

(9.27) IPFV (V₁) – IPFV (V₂) in Ayt Seghrouchen

llan miDn din iTšDaqn^{IPFV} *ḥ yidin ġur iLi ša*, *La Čičn*^{IPFV} *asn*, *La rTln*^{IPFV} *asn*, *La Znuzn*^{IPFV} *asn*

‘There are people who are charitable towards those who have nothing, they give them an animal, lend them money or sell to them’

¹⁵⁰ In particular, the Ayt Seghrouchen particles which combine with Imperfective verb forms are *al* and *La* (capital letter indicates gemination in Bentolila’s system): cf. Ayt Atta *ar* and *da*.

In (9.26), a series of three Perfective verbs are given, depicting seemingly-isolated situations. The case is similar in (9.27), which shows a series of four IPFV forms instead, indicating situations which are certainly understood as not taking place sequentially.

A similar example of a non-chaining construction from Ayt Atta is given below:

(9.28) IPFV (V₁) – IPFV (V₂) in Ayt Atta

<i>ka</i>	<i>da=j-ttawj</i>	<i>a-fullus</i>	<i>ka</i>
some	TAM = 3SG.M-take.IPFV	AS-rooster	some
<i>da=j-ttawj</i>	<i>t-a-nugud^f-t</i>	<i>ka</i>	<i>da=jttawj</i>
TAM = 3SG.M-take.IPFV	F-AS-lamb-F	some	TAM = 3SG.M-take.IPFV
<i>a-ksum</i>			
AS-meat			

‘Someone takes a rooster, someone takes a lamb, someone takes meat’

Religious pilgrimages usually entail taking offerings to a saint’s tomb. No chronological connection among these individual offerings is envisaged, whence the use of a series of IPFV forms.

Compare the previous examples from both Ayt Seghrouchen and Ayt Atta to the two which follow, which represent some good instances of C-AOR, once again, from Ayt Seghrouchen; the first one was given above (Bentolila 1981: 153):

(9.29) IPFV (V₁) – B-AOR (V₂) in Ayt Seghrouchen

iĠ La iTin^{IPFV} D Sa šhaq, yinas^{AOR} D Sa iequb
 ‘One says “Isaac” from here, the other replies “Jacob” from there’

(9.30) IPFV (V₁) – B-AOR (V₂) in Ayt Seghrouchen

ad iedl tiwriqin irah N

‘He will make his papers and leave’

These examples show the presence of some connection which links the situations to one another. As mentioned above, Bentolila (1981) puts forward an explanation of Chained-Aorist constructions based on the notion of temporal sequentiality.

Dialects differ as to the conditions under which the C-AOR construction can be used. In Ghadames Berber (Libya), the C-AOR has a more limited distribution than in Ayt Seghrouchen, since it can only appear after an initial IPFV, after *d* + Future, or after an Imperative form, whereas all chaining to an initial PFV form is excluded (Kossmann 2013a: 161-62, 71). The following example shows lack of chaining in the Perfective (Kossmann 2013a: 162):

(9.31) PFV (V₁) – PFV (V₂) in Ayt Seghrouchen (no chaining is possible)

i-ḍrān^{PFV} = *ən əmmək ás = t-ənna*^{PFV} *t-əbbāk*^{PFV} *ən(d)-kara = yid ənn-ās*
d ənd-alātma = yis, t-əḡār^{PFV} = *tān = ən ánu = yə = din, t-əzwa*^{PFV} = *yən,*
t-ənna^{PFV} = *yas:*

‘He turned around (PFV) as she had told him (PFV); then she took (PFV) her things and sisters, threw (PFV) them in the well and jumped (PFV) (into it) and said (PFV) to him [...]’

All of the verbs in (9.31) are marked as PFV. All of the situations are clearly sequentially arranged on the time axis, the only exception being the one encoded by the second verb (*ás = t-ənna*), which sets the reference time back to a point prior to the situation encoded by the first verb: interestingly this means that the verb cannot mark temporal discontinuity. Sequentiality is eventually resumed with the third verb.

The impossibility of chaining the B-AOR to a preceding PFV form may suggest that a link between the Aorist and the Imperfective still exists in Ghadames,

providing support to the hypothesis that the Aorist originally contrasted with the Perfective (i.e. that it could be interpreted as having imperfective semantics).

Figuig Berber (eastern Morocco) shows a different situation: the B-AOR may be chained to an Imperative or to a Perfective, whereas no mention is made as to whether chaining to a preceding Imperfective form is possible (Kossmann 1997: 349-50). An example of chaining to a PFV form is given below (Kossmann 1997: 350):

(9.32) PFV (V₁) – B-AOR (V₂) in Figuig

Imalik y-uzen^{PFV} i-essas-en af-en^{AOR} din ta-meṭṭu-t

‘The king sent guards and they found a woman there’

Some dialects show very little traces of chaining constructions. A case in point is Kabyle, where the B-AOR has almost disappeared, being confined to literary usage (Chaker 1983). Galand (2010: 230) confirms this by reporting that chaining to a preceding stative verb is not allowed in Kabyle, adding that this is not surprising, given the fact that the construction is in general not very widespread. The example of C-AOR mentioned earlier is repeated below (from Chaker 1983: 229):

(9.33) IMP (V₁) – B-AOR (V₂) in Kabyle

FY, t-fk-d as t!

‘Go out and give it to him!’

This is an example of B-AOR chained to a preceding Imperative form.

The Aorist stem is also attested in Tamashek Tuareg (Mali), where it is referred to as ‘Short Imperfective’ by Heath (2005). It is mainly used preceded by *ad* with the function of expressing future situations. As for its use as B-AOR, this

construction is far more limited than in Moroccan Berber dialects. In particular, it may appear in a few C-AOR constructions, notably when following a clause expressing the Future (Heath 2005):

(9.34) ad-AOR (V₁) – B-AOR (V₂) in Tamashek

àd nækṣ^{AOR} nəsəw^{AOR}

‘We will eat and drink’

In (9.34), the particle *ad* is not repeated ahead of the second verb.

In addition to this construction, the B-AOR is used after an Imperative form, as in the following example (Heath 2005):

(9.35) IMP (V₁) – B-AOR (V₂) in Tamashek

*ras innas^{PFV} æyy^{IMP} aman tətəkələd^{AOR} terəwitt d ʔəkæbar təkəkəd^{AOR}
ebæxæw én [...]*

‘Well, he said^{PFV} to him: “leave^{IMP} the water, and pick up^{AOR} the hide cord and the wooden milk bucket, and go^{AOR} to that bull over that way [...].’

Furthermore, it is also “optionally used in the consequent clause of counterfactual and proverbial conditionals” (Heath 2005: 311-12). The verb of the antecedent clause is a Perfective-type verb,¹⁵¹ whereas the verb of the consequent clause has B-AOR form (Heath’s ‘Short Imperfective’) if positive, whereas it has IPFV form

¹⁵¹ Tuareg has both a Perfective and a Long Perfective stem, and either form can appear in the antecedent clause of conditional constructions (Heath 2005). For an example involving chaining to a Long Perfective verb form in another Tuareg variety, namely Ayer Tuareg, see Kossmann (2011: 146).

(Heath’s ‘Long Imperfective’) if negative; an example of positive counterfactual conditional is shown below (Heath 2005: 698):¹⁵²

- (9.36) PFV (V₁) – B-AOR (V₂) in Tamashek
əndær i-wæɫ^{PFV} ʔə-jənnə ənd-əšəl, əzjər^{AOR}-æɣ
 ‘If it had rained yesterday, I’d have gone out’

A B-AOR form follows an initial PFV form in (9.34). In addition to these structures, the B-AOR is also found in combination with the verb ‘say’ where it approximately means ‘it is/was as though’ (Heath 2005: 312).

To summarise, C-AOR constructions are widely-attested across Berber, although their relative weight within each verbal system shows a high degree of variation: such constructions are absent from some varieties (such as Siwi), marginal in many other varieties (such as Kabyle or Ghadames), whereas they play a far more prominent role in the Moroccan Berber dialect of Ayt Seghrouchen described by Bentolila (1981).

The variation also concerns the type of C-AOR constructions attested in individual varieties: in Ayt Seghrouchen, a bare Aorist verb form may follow a range of TAM-marked sentence-initial forms, including PFV and IPFV, receiving its TAM interpretation from the TAM-V which precedes it. In other dialects, there are some restrictions concerning the type of TAM-marked verb forms that a B-AOR can follow: for instance, the B-AOR cannot be chained to a PFV verb in Ghadames (Kossmann 2013a).

¹⁵² Superscripted labels adhere to the conventions set out in the present work, whereas Heath’s glossing differs.

This section has provided an overview of C-AOR constructions across Berber. It is now time to move to an investigation of C-AOR in Ayt Atta: this is the topic of the next two sections.

§9.2.2.2 C-AOR in AAT (formal properties)

This section illustrates C-AOR constructions in Ayt Atta Tamazight, with a particular emphasis on formal properties and distributional patterns.

The situation found in Ayt Atta is closer to the one attested in Ayt Seghrouchen than to the Ghadames one, since the B-AOR may follow all other stem types, deriving from those initial forms its aspectual interpretation. Incidentally, the second PFV verb in the Ghadames example given in (9.29) would be marked as PFV in Ayt Atta as well, but all of the following verbs would be in the B-AOR. A few illustrative examples of C-AOR in Ayt Atta are provided below. The first two examples show the use of C-AOR after an Imperative form:

(9.37) IMP (V₁) – AOR (V₂)

inig *t-af-t*
 search_for.IMP 2SG-find.AOR-2SG
 ‘Look for something, (and) you will find it’

(9.38) IMP (V₁) – AOR (V₂)

asj *t-a-mlal-t=nnk* *t-kk-t*
 take.IMP F-AS-gazelle-F = 2SG.M.POSS 2SG-take.AOR-2SG
a-brid *ajffàs*
 AS-road right
 ‘Take your gazelle, take the road on the right [...]’

In (9.37), the C-AOR seems to portray the act of finding as a logical consequence of the preceding quest: one should actively look for something in order to find what is needed.

In (9.38), the addressee is ordered to take his gazelle and then take the road on the right. Sequential ordering is certainly respected here and may well be what motivates the selection of a B-AOR form, at least according to an approach following Bentolila (1981).

The next two examples are from different narrative texts and show the use of C-AOR after ad-AOR:

(9.39) ad-AOR (V₁) – AOR (V₂)

t-gg^wd *ad* *t-skuj* *j-nk = ttit*
 3SG.F-be_scared.PFV TAM 3SG.F-shout.AOR 3SG.M-kill.AOR = 3SG.F.ACC
 ‘She is scared of shouting, he’d kill her’ (i.e. if she shouts, he’ll kill her)

(9.40) ad-AOR (V₁) – AOR (V₂)

ad = ak *asj-k* *nkk* *t-a-mlal-t*
 TAM = 2SG.M.DAT take.AOR-1SG 1SG F-AS-gazelle-F
t-asj-t *kjj* *aj = nna-k* *akk^w* *j-ad^f-nin*
 2SG-take.AOR-2SG 2SG.M REL = MED all PTCP-other-PTCP.PL
 ‘I am going to take the gazelle, you take everything else’

The scenario that (9.39) is part of is one where a woman has just realised that a thief has entered her house, fearing some dreadful consequences in case she shouts. The first verb expresses her temporary state of fear, whereas what follows portrays the scary scenario she conjures up in her mind: if she shouts, she will be killed. The final verb is in the C-AOR, which seems to express the logical consequence of the woman’s hypothesised scenario.

Sentence (9.40) shows a little passage from the story of two brothers, a clever man and a dumb one, who are to decide on how to share their defunct father's fortune. The clever one claims to just want a gazelle for himself, whereas he would be willing to leave everything else to his brother; of course, the latter is led to believe that the gazelle is worth more than the whole of their father's fortune and will eventually claim the gazelle for himself instead. The first verb sets the action in the immediate future, expressing a suggestion, whereas the following B-AOR form is simply chained to the first one.

The use of C-AOR after a preceding PFV form is ubiquitous in narration. A short example is provided below:

- (9.41) PFV (V₁) – AOR (V₂)
- | | | |
|---------------------------|--------------------|---------------|
| <i>t-wt = ttit</i> | <i>t-Ø-srdun-t</i> | <i>t-mmt</i> |
| 3SG.F-hit.PFV = 3SG.F.ACC | F-DS-mule-F | 3SG.F-die.AOR |
- ‘A mule hit her, she died’

This describes a past event, when a girl died after having been hit by a mule. The sentence arguably sets a causal link between the mule's hitting and the girl's death.

Finally, the next example shows the use of C-AOR after an initial Imperfective form:

- (9.42) IPFV (V₁) – AOR (V₂)
- | | | | | |
|----------------|--------------|---------------|-----------|----------------|
| <i>ass = a</i> | <i>lfid</i> | <i>aɣatar</i> | <i>da</i> | <i>j-ttddu</i> |
| day = PROX | Eid | big | TAM | 3SG.M-go.IPFV |
| <i>simana</i> | <i>j-ili</i> | <i>w-jdud</i> | <i>n</i> | <i>lhart</i> |
| week | 3SG.M-be.AOR | DS-Ajdud | of | Lhart |
- ‘Today it is Eid al-Adha: a week goes by, the Ajdud of Lhart starts’

A religious festival takes place annually one week after Eid al-Adha: the C-AOR form *jili* precisely makes reference to this chronological succession within a habitual frame.

The previous examples show that a B-AOR form may be chained to TAM-marked verb forms, and suggest that an interpretation of the B-AOR in terms of temporal sequentiality to those preceding verb forms might be appropriate. Those initial forms set the aspectual frame against which any following B-AOR can be interpreted, until a new aspectually-marked form is uttered, which leads to a change in the aspectual frame (cf. Galand 2010: 228). This shows that the Aorist itself is aspect-neutral, deriving its aspectual interpretation from a preceding verb: this is exactly what is referred to here by the name C-AOR.

However, this overview is far from exhaustive and the situation is more complex than what may appear. The following section details a number of problems with an approach to chained-aorist constructions based on temporal sequentiality.

9.2.2.3 C-AOR in AAT (semantic properties)

Despite providing a detailed analysis of several constructions involving the B-AOR in Ayt Seghrouchen in terms of C-AOR, and notwithstanding the possibility of significant dialectal differences in this domain, Bentolila's description does not seem to fully account for the whole range of contexts in which the B-AOR is used in Ayt Atta and in other dialects. In other words, there are situations in which the B-AOR can hardly be accounted for as due to chaining, if temporal sequentiality to an aspectually-marked verb form is retained as its diagnostic criterion.

First and foremost, the notion of swift transition from a situation to an immediately-following one is not without exceptions, as many examples from a

variety of dialects indicate. This is what Galand aims to show with the following Kabyle example (Galand 2010: 232):

(9.43) *ed inkər^{AOR} aləs ig-^vməḍ^{AOR} yäQäym^{AOR} dəy tənere*

‘The man stands up, goes out, and stays outside’

Galand remarks that stating that the B-AOR expresses rapid succession to a preceding situation cannot reasonably account for its use with the last verb in this sentence, which seemingly encodes a stative situation. However, the last verb may be said to encode the entering into a state instead, i.e. it may ultimately have punctual meaning and be compatible with a sequential interpretation (i.e.: ‘the man stands up, goes out, and stops outside’).

Another example provided by Galand (but ultimately from Leguil 1985: 24) seems to express the point more adequately. This is interesting as it involves two unambiguously-stative situations: there is no obvious way in which temporal sequentiality involving a transition from a state into another state can be imagined (Galand 2010: 229):

(9.44) *iDu^{AOR} s yan wanu iLa^{PFV} y lxla, yil^{AOR} y tama n uyaras*

‘He went (AOR) towards a well which was (PFV) in the countryside, (and which was - AOR) by a path’

As Galand points out, it is obviously not the case that the well is at first in the countryside (*iLa^{PFV} y lxla*) and then by a path: the last B-AOR does not express temporal sequentiality to the preceding PFV form, but “dependence is here purely grammatical” (Galand 2010: 229).

A similar situation seems to be found in the following Ayt Atta Tamazight sentence:

- (9.45) *j-lla kur-nk jan w-sklū llan aflla-nns*
 3SG.M-be.PFV by-1PL DET.M DS-tree 3SG.M-be.PFV above-3SG
igd^ʕad^ʕ t-ili kur-nk jat lʒazira
 bird.PL 3SG.F-be.AOR by-1PL DET.F island(F)
 ‘We have a tree, there are birds on top of it, we have an island [...]’

The speaker is here describing a picture, so temporal sequentiality should be excluded. Leaving the interpretation of the second PFV aside for the time being, the B-AOR which follows cannot arguably be said to describe a situation which is temporally sequential to another one.

Other interesting Ayt Atta examples are given below. The relevant B-AOR forms essentially paraphrase the clause which has just been uttered. A narrative (i.e. non-habitual) situation is given in (9.46). The initial sentence sets the aspectual frame and the second sentence essentially rephrases the first one and further adds some supplementary information:

- (9.46) *da j-ttddu a j-ħrj fiat walu*
 TAM 3SG.M-go.IPFV TAM 3SG.M-drive.AOR PRES nobody
j-ddu d^ʕd^ʕur amzwaru fiat walu
 3SG.M-go.AOR time first PRES nobody
 ‘He is going to drive ... (there is) nobody... he is going the first time... (there is) nobody’

What is interesting is that the C-AOR does not express the fact that the situation takes place right after the previous one, since one and the same situation is

represented here: the narrator aims to paraphrase his own initial sentence, possibly realising that the information just given was insufficient. The verb in the initial sentence sets the aspectual frame for what follows, and all of the following verbs need to be interpreted within the same aspectual frame, until a new aspectually-marked form will eventually be uttered. This means that regardless of whether the narration moves forward or not, it seems that the mere fact of occupying a non-initial position within the same discourse accounts for the use of B-AOR.

In (9.47), the very beginning of a folktale is reproduced. Similarly to (9.44), the second sentence repeats the verb used in the sentence preceding it:

(9.47)	<i>da=k</i>	<i>ttini-n</i>	<i>ajt</i>	<i>llik</i>	<i>ddakg</i>	<i>rad</i>
	TAM=2SG.M	IPFV.say-3PL.M	people[PL]	past	when	TAM
	<i>ini-n</i>	<i>lqist</i>	<i>s</i>	<i>t-afuj-t</i>	<i>ini-n=ak</i>	
	say.AOR-3PL.M	story(F)	with	F-sun-F	say.AOR-3PL.M=2S.M	
	<i>sɣll-k</i>	<i>ur</i>	<i>ttgga-n</i>	<i>w-arraw=inw</i>		
	swear.PFV-1SG	NEG	be.IPFV-3PL.M	DS-children[PL]=1SG.POSS		
	<i>i-mʒʒadʹ</i>					
	PL-bald.PL					

‘In the past people used to say when they wanted to tell a story in the daytime, they would say: “I swear so that my children do not become bald”’

Again, the first sentence is introduced by a *da-IPFV* verb form, which is followed by an adverbial clause specifying the situation to which the habitual statement refers. Possibly because of the length of the adverbial clause, the narrator decides to repeat the verb meaning ‘they say’, but this time she does so by using a B-AOR form instead. It is clear that the aspectual context is to be interpreted as being habitual, just like the initial IPFV form is.

All of these examples seem to suggest the illusory character of the idea that the Chained-Aorist construction represents mere temporal sequentiality: the existence of transitions across situations may represent an epiphenomenon of B-AOR use, rather than a defining feature of it.¹⁵³ It may be hypothesised that chaining should not be conceived of as mirroring the sequential arrangement of situations on the time axis, but as a property of discourse structure instead.

A second type of issues seems to combine the kind of difficulties just described with some apparent mismatches between form and aspectual interpretation. This is shown by the following Ayt Atta Tamazight examples:

- (9.48) *j-lla* *lḥfif* *n-ddu* *n-ħffa = d* *i* *lbḥajm*
 3SG.M-be.PFV grass 1PL-go.AOR 1PL-cut.AOR = VNT to animals
 ‘There is the grass, we go and cut it for the animals’

- (9.49) *han* *tamgra* *t-lla* *n-ddu* *n-mgr* *imndi*
 PRES harvest 3SG.F-be.PFV 1PL-go.AOR 1PL-harvest.AOR wheat
 ‘There is the harvest, we go and harvest the wheat’

In these data, a sentence-initial PFV-marked stative verb is followed by a B-AOR form. What is remarkable here is that the latter receives habitual, i.e. IPFV interpretation. This is problematic for the idea that a B-AOR form receives its TAM interpretation from a sentence-initial verb form.

All these sentences are to be further investigated in §9.4. Before doing that, it is now time to illustrate the analysis of B-AOR constructions put forward in the present work.

¹⁵³ A similar position is found in Galand (2010: 229).

§9.3. Chained aorist as clause chaining and its function in discourse

Chaining has been recognised as an important factor in the use of Bare Aorist verb forms in Berber: this is evident from the very name given to constructions involving such forms (i.e. *chained aorist*). However, no attempt has to my knowledge been made to investigate this phenomenon against a typological background. The present work contributes to filling this gap and suggests analysing the C-AOR constructions attested in Ayt Atta as instances of *clause chaining*. Moreover, the proposal is made to analyse all occurrences of B-AOR as pertaining to clause chaining, regardless of whether a TAM-marked verb determines the aspectual interpretation of B-AOR or whether the latter should be regarded as F-AOR instead.

The section also shows that despite its relative typological rarity, phenomena closely resembling Ayt Atta's Chained-Aorist construction are attested in other African languages, pointing to the existence of some important areal features.

9.3.1. Formal and semantic properties of clause chaining

Languages adopt different strategies for the organisation of clauses into complex structures (Bril 2010; Gast & Diessel 2012). In particular, two main modalities of clause linking may be recognised cross-linguistically, namely co-ranking structures and chaining structures (Longacre 2007: 374ff.).

Co-ranking structures are those clause-linking strategies which assign each clause equal rank. In other words, “it is possible to have several verbs of the same rank, commonly referred to as independent verbs” (Longacre 2007: 375). This is the case in English and in European languages in general, where the juxtaposition of two (or more) clauses does not cause any inflectional effect on their verbs.

The second important modality of sentential organisation consists in chaining structures (Kroeger 2004; Longacre 1990; Longacre 1996; Longacre 2007). This differs considerably from the co-ranking structures just described. Typological work on clause chaining constructions has shown that their main diagnostic feature is the presence of just one fully-inflected verb in the chain of clauses: all of the other verbs are somehow deficient in this respect, as they display reduced marking.

There are essentially two types of clause chaining, namely medial-final and initial-consecutive chaining structures, depending on whether full marking is assigned to the last verb in the chain or the first one, respectively (Longacre 2007: 398ff).

Clause chaining is attested in several language families, geographically distributed across most continents. Medial-final chaining is extensively found in New Guinea and similar constructions are displayed by languages spoken in South America, notably in Colombia, Ecuador, and Peru. Other instances of medial-final chaining are found at various places across the globe (Longacre 2007: 399). Initial-consecutive chaining is less widespread and less investigated. It is attested in several African languages, from mainly Niger-Congo and Nilotic languages (Longacre 2007: 417-19).¹⁵⁴

A notable property of medial-final chaining is the presence of *switch reference* (Haiman & Munro 1983). Switch reference is “a discourse tracking device, whose main function is to monitor the subject” (Fedden 2012: 393). In other words, it is a

¹⁵⁴ The fact that initial-consecutive clause chaining is also found in Niger-Congo languages raises some interesting questions, since it has been reported that other typologically-unusual linguistic features are found in Berber and Niger-Congo languages. Further work is certainly necessary to investigate the topic, but these phenomena might point to the existence of a linguistic area including Niger-Congo, Berber, and possibly other language families.

system whereby “each non-final clause is marked so as to indicate whether the following clause has same subject or different subject from itself” (Longacre 2007: 399). Switch reference is not attested in Ayt Atta Tamazight and will not be discussed any further.

Another important property of clause chaining constructions consists in the fact that temporal relations play a central role in such constructions, which pay special attention to the distinction between chronological overlap and chronological succession (Longacre 2007: 400).

§9.3.2 C-AOR as clause chaining

The previous sections have analysed the characteristics of the Aorist in Ayt Atta and other Berber varieties and illustrated the properties of clause chaining constructions cross-linguistically. Based on the previous discussion, a proposal is now made that C-AOR be analysed as an instance of initial-consecutive chaining. The plausibility of this claim is further confirmed by the existence of an important correlation between word order and the structure of clause-chaining constructions (Longacre 2007). On the one hand, languages having medial-final chaining display SOV order: this means that their full marking of the last verb in the chain corroborates their head-final nature. On the other hand, initial-consecutive chaining languages have head-initial structure, showing VO order, i.e. either SVO or VSO: again, their clause-chaining constructions are consistent with more general typological properties displayed by these languages (Longacre 2007: 417).

In keeping with its VSO word order and general head-initial structure, it is then hardly surprising that Ayt Atta Tamazight assigns full marking to the chain-initial verb form, whereas all of the subsequent verbs in the chain display reduced marking.

There are two Perfective forms in the text. The first one is *llan*, a stative verb which conveys background information: the narrator says the man has two children as a side commentary. On the other hand, the verb form *tmmut* marks a flashback, a past situation: use of the Aorist would have placed the event in sequence to the first verb.

This shows that the Perfective cannot be identified with the foreground in Ayt Atta. In fact, it often conveys background information. This is due to the peculiarity of the Berber system, which hinges on a close connection between Perfective marking and stative meaning.

These ideas are discussed in the next section, where some of the examples shown in the previous sections are reanalysed.

§9.3.3 C-AOR does not mark sequentiality

It is shown above that, in the event we adopt the notion of temporal sequentiality as the diagnostic criterion for B-AOR use, the analysis of sentences such as the following one becomes problematic:

- (9.51) *da* *j-ttddu* *a* *j-ħrj* *fiat* *walu*
 TAM 3S.M-go.IPFV TAM 3S.M-go.AOR PRES nobody
 j-ddu *d^ɛd^ɛur* *amzwaru* *fiat* *walu*
 3S.M-go.AOR time first PRES nobody
 ‘He goes in order to leave, (there is) nobody, he goes the first time...
 nobody’

This example suggests that sequentiality is not a necessary feature of Ayt Atta clause chaining. It seems that C-AOR simply requires that an aspectually-marked verb form appears in chain-initial position, prompting us to redefine sequentiality at discourse

level. This seems to be even more evident in the following example, already seen above:

- (9.52) *j-lla kur-nk jan w-sklu llan affla-nns*
 3SG.M-be.PFV by-1PL DET.M DS-tree 3SG.M-be.PFV above-3SG
i-gd^ʕad^ʕ t-ili kur-nk jat lʒazira
 PL-bird.PL 3SG.F-be.AOR by-1PL DET.F island(F)
 ‘We have a tree, there are birds on top of it, we have an island [...]’

This is an example of descriptive discourse, therefore no sequentiality is involved. Nevertheless, the C-AOR is used. It is not the situations expressed by the verbs which are sequential in (9.52). In fact, what is sequential seems to be the narrator’s glance, his gradual highlighting of different parts of the picture, like handling a torch in the dark and gradually casting light onto different objects. Sequentiality is in the words of the one who talks, rather than in what is being talked about: this is equivalent to saying that sequentiality is a property of discourse.

The previous example shows that clause chaining also applies to stative situations. A similar fact is attested outside Berber too. In Yom (Gur Niger Congo), a structure reminiscent of C-AOR is found in non-storyline (flashback) contexts (Longacre 1990: 138):

- (9.53) *ba te ən ba ne kpirwa-ra*
 their father and their mother died-focus
ka caa ba ba bali
 and left them they two
 ‘Their father and their mother had died leaving just the two of them’

In (9.53), the first verb is perfect *kpirwa-ra*, whereas the second verb is *caa*, a consecutive form governed by the perfect. There is no temporal sequentiality involved here, as the act of dying entails the fact that the two children become orphans, i.e. the two events coincide temporally. It is also useful to remark that “the non-occurrence of a conjunction in sentence-initial marks this event – the death of the parents and the orphaning of the children – as background to what follows” (Longacre 1990: 138). In other words, both the Yom example and the Ayt Atta ones show that clause chaining is not linked with sequentiality and that it can be used for the expression of background information.

§9.3.4 What can be a chain

An important question can be asked at this stage: what can constitute a chain and what cannot? A chain needs to consist of a coherent list of items. Sequential situations may be one such list, but other chains are possible, such as one where someone’s possessions are listed, as the following sentence suggests:

- (9.54) *ajwa j-ddu imfi-ddk j-k kur-sn rbbi*
 so 3SG.M-go.AOR like-this 3SG.M-give.AOR by-3PL.M Lord
lxajr ili-nt kur-sn w-ulli ili-n
 good be.AOR-3SG.F by-3PL.M DS-sheep(F)[PL] be.AOR-3SG.M
i-nugud^ɛ-n ili-nt t-Ø-funas-in
 PL-lamb-PL be.AOR-3SG.F F-DS-cow-PL
 ‘So it goes like this, the Lord gave them goods, they have sheep, they have lambs, they have cows, [...]’

This example provides a description of the goods with which the Lord blessed a family. This seems to be coherent enough to justify clause chaining. However, a

more correct way of looking at the issue might consist in reversing the perspective: what would make clause chaining impossible? A rupture in sequentiality may precisely determine the end of the chain. The respect of sequentiality becomes a fundamental criterion to account for chaining but only as far as events are concerned.

Furthermore, the fact that sequentiality is not the defining criterion of Ayt Atta clause chaining is confirmed by the somewhat-eccentric behaviour of specific verbal items. For instance, the verb *ini* ‘say’ has often the effect of disrupting the use of C-AOR, in spite of the fact it may express situations which are part of a chronologically-sequential chain. The use of PFV marking for this verb is not only allowed, but possibly preferable, at least by judging from the mere count of AOR-marked and PFV-marked occurrences of this verb in narration.

This suggests that the coherency of a chain of situations is not defined on more or less ‘objective’ sequentiality criteria but sequentiality itself is overridden by language-specific criteria pertaining to discourse organisation.

These examples are also compatible with the possibility that some lexical items may actually have a mere organising function in discourse. This is the hypothesis formulated by Galand-Pernet, who analyses several occurrences of the verb ‘to say’ as simply marking the beginning of new episodes within a narrative text (Galand-Pernet 1973-1979 [1981]: 598). Furthermore, some occurrences of the verb ‘to say’ arguably fulfil the double function of signalling the advent of new narrative episodes while at the same time expressing the aspectual frame within which the following C-AOR forms are to be interpreted.

A last important issue to be investigated consists in the identification of what information may be placed within a discourse unit without determining a disruption

in the chain of situations, which would generate the need for an aspectually-marked form.

For example, it seems that PFV-stative verbs may easily appear between an initial da-IPFV form and a B-AOR form interpreted as chained to the initial Imperfective verb. This correlates with the foregrounding/backgrounding distinction discussed above. Since PFV-marked stative verbs are unable to move the narration forward, their function may be one of providing comments and information about the text, regardless of whether the text is a narrative one or one concerning habitual situations. This seems to be the function of the clause *jsul lhal jllas* in the following example:

- (9.55) *da* *di* *n-nkkr* *s'baħ* *j-sul* *lhal*
 TAM VNT 1PL-get_up.IPFV morning 3s.M-remain.PFV time
 j-llas *n-ddu* *s* *a-mrdul* *n-mun*
 3s.M-be_dark.PFV 1PL-go.AOR to AS-desert 1PL-go_together.AOR
 s *ʔfra* *nkɔ* *χmsa* *nkɔ* *rbʔa* *n* *t-Ø-wtm-in*
 with ten or five or four of F-DS-female-PL
 ‘We used to get up in the morning, it was still dark, we would go to the
 desert, we would go together, five women, or ten, or four’

In this example, *jsul lhal jllas* provides information which is not part of the sequence of habitual events narrated by the speaker. This is background information and, interestingly, it does not disrupt the narrative chain: the following B-AOR is assigned a habitual reading, being aspectually-interpreted thanks to the presence of the chain-initial da-IPFV form.

The presence of background information seems to characterise (9.52) above, too: the fact that the second verb does not appear as a B-AOR but is fully-marked instead may be due to the fact that it encodes background information, aimed at providing

more details about the tree. Some intonational clues seem to suggest this, although a full investigation of intonational patterns is not undertaken here.

This work has so far shown that, barring the idiosyncratic behaviour of such verbal items as ‘say’, all sequential situations are characterised by clause chaining but not all clause chaining is characterised by sequentiality. The insertion of extra information does not necessarily disrupt clause chaining, provided that such information consists in comments, descriptions, and the like, i.e. background information.

This means that clause chaining is a property of discourse which has nothing to do with the encoding of temporal sequentiality. The latter is mainly a feature of one of the layers making up a text, namely the main storyline; however, clause chaining is orthogonal to sequentiality in Ayt Atta, since it is found across the whole range of informational layers in which a text is organised.

§9.4. F-AOR and clause chaining

The discussion has so far analysed the C-AOR construction and defined it as an instance of initial-consecutive clause chaining. However, it seems that a unified account of all B-AOR constructions may be provided, one which also includes all uses of what is here referred to as F-AOR.

As mentioned above, the F-AOR consists in the use of B-AOR forms with no preceding sentence-initial verb. Clause chaining constructions where chained forms do not follow an initial form are attested in the literature. In Biblical Hebrew (Semitic), some tense-encoding verb forms have been analysed as instances of clause chaining, even if no fully-marked verb is obligatorily present in the chain (Longacre

2007: 419). A similar situation is attested in Mündü (Eastern Niger Congo) (Longacre 1990: 112-13).

As for Ayt Atta, corpus investigation has shown that F-AOR is never used in absolute-initial position. All instances of F-AOR use are actually cases in which either linguistic information is provided in what immediately precedes the F-AOR or the latter is accounted for by discourse structure and cohesion requirements. These two cases are examined separately below.

The first scenario is realised in two possible ways, as the F-AOR verb is preceded by either the PFV form of the verb *ili* ‘to be (found), to exist’ or temporal adverbials. It was previously stated that such cases are problematic for an analysis of B-AOR in terms of C-AOR. This is evident in the following example:

- (9.56) *j-lla* *lhjif* *n-ddu* *n-hjʃad* *i* *lbhajm*
 3SG.M-be.PFV grass 1PL-go.AOR 1PL-cut.AOR to animals
 ‘There is the grass, we go and cut it for the animals’

This sentence shows the PFV form of a stative verb followed by a B-AOR form. The latter is clearly interpreted as involving a habitual situation: the narrator was not talking about a single event but was referring to a habitual situation holding in the past. Using the terminology adopted in this work, the B-AOR is then an instance of F-AOR, as its interpretation as an IPFV form cannot be derived from a preceding IPFV-marked verb.

A similar situation arguably occurs in the following sentence:

- (9.57) *fian* *tamgra* *t-lla* *n-ddu* *n-mgr* *imndi*
 PRES harvest 3S.F-be.PFV 1PL-go.AOR 1PL-harvest.AOR wheat

‘There is the harvest, we go and harvest the wheat’

Again, the B-AOR is interpreted as a habitual form, rather than as referring to a single juncture on the time axis.

These examples seem to contradict earlier statements found in the literature, according to which the unmarked B-AOR receive aspectual interpretation depending on the aspectual value of the initial verb, since there is an obvious mismatch between form and aspectual interpretation. So, the question seems to be the following one: how is it possible for a PFV verb to be followed by a B-AOR form with IPFV interpretation?

The answer is likely to be concerned with the actional properties of the verb *ili* in combination with PFV marking. In order to illustrate the point, it is necessary to take a closer look at the properties of this verb.

The main function of the PFV form *jlla* is an existential one, consisting in stating that a particular entity exists or may be found at some place and time. This existential function seems to have to do with the distinction between temporary and permanent states: *jlla* may refer to either a temporary state or a permanent one, one where a situation is conceived of as a timeless state, since it is not specifically associated with any specific time within the time frame but is associated with the whole time frame, or, possibly, with each and every moment within the given time frame. As such, it may be interpreted as extended over time, i.e. as being durative.

Based on these considerations, the clause *jlla lhɣif* seems to be ambiguous between a specific-situation interpretation (‘the grass is (there)’ and an existential statement (‘the grass exists’). In the second reading, the entailment is that the plant

is in continuous existence throughout the relevant time frame. It is precisely this duration which seems to have scope over the B-AOR used in the verb which follows.

A F-AOR verb can also be preceded by temporal adverbials. This is seen in the following examples, mentioned in §9.2.1 and repeated below:

- (9.58) *ku Ø-ass j-uru t-a-brat-t*
 every AS-day 3SG.M-write.AOR F-AS-letter-F
 ‘He would write a letter every day’

- (9.59) *datɛima n-nkr g w-mzwaru nkd lʔlʔawkbar*
 sometimes 1PL-get_up.AOR in DS-Fajr_prayer or Allahu akbar
 ‘Sometimes we would get up at *Fajr* (time) or at *Allahu akbar* (time)’

Both B-AOR forms are instances of F-AOR, since they are not used after aspectually-marked verbs, but follow sentence-initial frequency adverbs instead. Interestingly, both F-AOR forms receive habitual interpretation. The first sentence is from elicitation and was explicitly indicated as more natural-sounding than a construction using an IPFV-marked verb. The second one comes from the narration of habitual past events and marks a clear break with the previous topic.

The hypothesis put forward here is that the presence of an initial frequency adverb is sufficient to trigger a habitual interpretation: in other words, the ensuing verb is licensed to be realised as a B-AOR.

Another important factor allowing for the appearance of F-AOR concerns discourse cohesion. The discourse-sequential character of Ayt Atta B-AOR makes it an ideal candidate for the establishment of cohesion throughout a discourse unit. A remarkable example was collected during the audio recording of some anecdotal narration. While telling the events that took place the previous night, the speaker is

suddenly forced to interrupt his story due to someone entering the room; after a couple of minutes, the recording is resumed and a B-AOR form is the very first word uttered by the narrator, arguably linking the narration back to where it was interrupted.

This example stands at the intersection of C-AOR with F-AOR use. It seems that the narrative nature of the text itself and its embedded sequentiality allow for a use of the B-AOR which is at once both C-AOR and F-AOR: it is interpreted as being chained to some preceding form, although the immediate context does not make it clear which form is being referred to. In other words, it seems that the use of B-AOR in absolute-initial position brings together features of both C-AOR and F-AOR, revealing the B-AOR's true nature as a cohesion-implementing device in discourse.

What the previous discussion shows is that the B-AOR may be licensed even in the absence of an aspectually-marked verb: chain-initial aspectual framing seems to be able to be supplied by adverbials of various kinds or by the appropriate interaction of grammatical aspect and actionality, whereas matters of discourse cohesion also account for the use of B-AOR forms.

9.5 Concluding remarks on Aorist in AAT

This chapter has investigated the Aorist in Ayt Atta Tamazight from both a comparative and a typological perspective. Several Berber languages possess different kinds of initial-consecutive clause chaining, a clause-chaining structure which is somewhat rare cross-linguistically, having so far mainly been described in relation to Niger-Congo and Nilotic languages.

All uses of the Aorist without a preceding particle may be regarded as instances of clause chaining in Ayt Atta Tamazight. Bare Aorist forms most frequently receive

their aspectual interpretation from chain-initial TAM-marked verbal elements (i.e. either a verb or a complex formation constituted by a TAM particle and a verb).

However, the chapter has further shown that chain-initial aspect-framing information is not necessarily encoded by fully-marked verb forms, but may also be expressed either by temporal adverbials or by special interpretations of the actional properties of existential predicates.

A number of factors interact with clause chaining in Ayt Atta Tamazight, namely discourse coherence, lexical idiosyncrasies, and provision of foregrounded and backgrounded information. More generally, this chapter has argued for the function of clause chaining as a device adopted in order to ensure cohesion to Ayt Atta Tamazight discourse.

Part 2

Conclusion

The second part of the present dissertation has illustrated the functional properties of aspect in Ayt Atta Tamazight. The interpretation proposed in this work is that the aspectual system of Ayt Atta Tamazight develops around the clause-chaining role played by the Aorist. This fact alongside the typologically-eccentric treatment of stativity plays a fundamental role in the distribution of verb forms in narration.

In spite of some early account of C-AOR constructions in terms of sequentiality, it has been shown that the latter represents only a subset of the contexts in which C-AOR is found. The existence of clause-chaining involving stative verbs simply confirms that sequentiality is not the defining feature of these constructions. This means that one of the most striking results observed in Ayt Atta is that Perfective marking signals lack of sequentiality more than Aorist marking encodes sequentiality. The Aorist marks clause-chaining whereas the Perfective often signals rupture in sequentiality, marking the beginning of sentences which encode some kinds of departure from the main storyline.

General conclusion

The present work represents a contribution to Berber linguistics in at least two different ways. First, it documents the hitherto-undocumented variety spoken by the Ayt Atta, providing the first grammatical description of any Berber variety spoken in the Jbel Saghro area, an area of south-east Morocco not properly investigated until now.

Second, it provides a new interpretation of the so-called *chained-aorist* construction (here referred to as *Bare Aorist*). This represents a departure from usual accounts of this verb form in at least two ways. On the one hand, it brings this construction within the realm of linguistic typology, analysing the Bare-Aorist construction as a form of initial-consecutive clause chaining; on the other hand, it shows that an account of this construction in terms of sequentiality does not withstand closer scrutiny, since non-sequential situations may receive Bare-Aorist marking too.

Moreover, the thesis shows that the combined effect of, on the one hand, the association of stativity with Perfective marking, and, on the other hand, the presence of clause-chaining constructions, accounts for the rarity of Perfective marking in a text's main storyline as well as for its high presence in the background.

Finally, the present discussion also represents a contribution to areal linguistics, as it shows how clause chaining is attested across a larger part of African languages

than it was previously thought. It mentions the existence of similar patterns in Semitic and especially in a number of Niger-Congo languages, which is hoped it will pave the way for further investigation.

Bibliography

- Abdel-Massih, Ernest T. 1971. A Reference Grammar of Tamazight. A Comparative Study of the Berber Dialects of Ayt Ayache and Ayt Seghrouchen. Ann Arbor: University of Michigan.
- Aikhenvald, Alexandra Yu. 1995. Split ergativity in Berber languages. *St. Petersburg Journal of African Studies* 4.39-68.
- Allati, Abdelaziz. 2002. *Diachronie tamazighte ou berbère*. Tanger: Publications de l'université Abdelmalek Essaâdi, Faculté des Lettres et Sciences Humaines.
- Amaniss, Ali. 2009. Dictionnaire Tamazight-Français (parlers du Maroc Central). Downloaded from <http://www.scribd.com/aliamaniss/d/14939857-dictionnairetamazightfrançais>
- Arkadiev, Peter M. 2009. Lexical and compositional factors in the aspectual system of Adyghe. *Cross-linguistic Semantics of Tense, Aspect, and Modality*, ed. by L. Hogeweg, H. de Hoop & A. Malchukov, 55-82. Amsterdam: John Benjamins Publishing Company.
- Arkadiev, Peter M. 2011. Aspect and actionality in Lithuanian on a typological background. *Langues baltiques, langues slaves*, ed. by D. Petit, C. Le Feuvre & H. Menantaud, 61-92. Paris: CNRS Editions.
- Avilova, Natal'ja Sergeevna. 1976. *Vid glagola i semantika glagol'nogo slova* [Verbal Aspects and the Semantics of the Verb]. Moscow: Akademija nauk SSSR.
- Bach, Emmon. 1986. The algebra of events. *Linguistics and Philosophy* 9.5-16.
- Bader, Yousef. 1985. Schwa in Berber: A Non Linear Analysis. *Lingua* 67.225-49.
- Basset, André. 1932. Note sur l'état d'annexion en berbère. *Bulletin de la Societe d'Archeologie Copte* 33.173-74.
- Basset, André. 1952. *La langue berbère*. London, New York, Toronto: Oxford University Press.
- Belkadi, Aicha. 2013. Aspect and mood in Berber and the aorist issue. *SOAS Working Papers in Linguistics*, Vol. 16, ed. by L. Kipp & C. Youngberg, 127-50. London: SOAS.
- Belkadi, Aicha. forthcoming. Associated motion with deictic directionals. A comparative overview. *SOAS Working Papers in Linguistics* 17.
- Belkadi, Aïcha. 2010. *Pronominal and Clitic Systems in Taqbaylit Berber*. London: SOAS, University of London.
- Bentolila, Fernand. 1981. *Grammaire fonctionnelle d'un parler berbère*. Ait Seghrouchen d'Oum Jeniba (Maroc). Paris: SELAF.

- Bertinetto, Pier Marco & Denis Delfitto. 2000. Aspect vs. Actionality: Why they should be kept apart. *Tense and Aspect in the Languages of Europe*, ed. by Ö. Dahl, 189-225. Berlin, New York: Mouton de Gruyter.
- Binnick, Robert I. 1991. *Time and the Verb. A Guide to Tense and Aspect*. New York, Oxford: Oxford University Press.
- Bird, Steven & Gary Simons. 2003. Seven dimensions of portability for language documentation and description. *Language*.557-82.
- Bondarko, Aleksandr V. 1971. *Vid i vremja russkogo glagola*. Moscow: Prosveščenie.
- Boogert, Nico van den. 1997. *The Berber Literary Tradition of the Sous*. Leiden: Nederlands Instituut voor het Nabije Oosten.
- Boumalk, Abdallah. 1996. La négation en berbère marocain. *La négation en berbère et en arabe maghrébin*, ed. by S. Chaker & D. Caubet, 35-48. Paris: L'Harmattan.
- Brett, Michael & Elizabeth Fentress. 1996. *The Berbers*. Cambridge: Blackwell Publishing.
- Bril, Isabelle (ed.) 2010. *Clause Linking and Clause Hierarchy. Syntax and pragmatics*. Amsterdam: John Benjamins Publishing Company.
- Brugnatelli, Vermondo. 1997. L'état d'annexion en diachronie. *Afroasiatica Neapolitana*, 139-50. Naples: Istituto Universitario Orientale.
- Brugnatelli, Vermondo. 1999. I prestiti latini in berbero: un bilancio. Paper presented at the 9° Incontro di Linguistica Afroasiatica (Camito-Semitica), Trieste.
- Brugnatelli, Vermondo. 2011. Some grammatical features of Ancient Eastern Berber (the language of the Mudawwana). *He bitaney lagge. Studies on Language and African Linguistics in Honour of Marcello Lamberti*, ed. by L. Busetto, R. Sottile, L. Tonelli & M. Tosco. Milan: Qu.A.S.A.R. s.r.l.
- Bybee, Joan, Revere Perkins & William Pagliuca. 1994. *The Evolution of Grammar: Tense, Aspect, and Modality in Languages of the World* Chicago: University of Chicago Press.
- Camps, Gabriel. 1996. *Les Berbères*. Toubkal: Alif, Edisud.
- Cantineau, Jean. 1960. *Études de linguistique arabe*. Paris: Klincksieck.
- Čertkova, Marina Ju. 1996. *Grammatičeskaja kategorija vida v sovremennom russkom jazyke*. Moscow: Moscow State University.
- Chaker, Salem. 1983. *Un parler berbère d'Algérie (Kabylie): syntaxe*. Aix-en-Provence: Université de Provence.
- Chaker, Salem. 1988. L'état d'annexion du nom. *Encyclopédie Berbère* V.686-95.

- Chaker, Salem. 1995a. L'état d'annexion du nom. *Linguistique berbère. Études de syntaxe et de diachronie*, ed. by S. Chaker, 39-52. Paris, Louvain: Peeters.
- Chaker, Salem. 1995b. *Linguistique berbère. Étude de syntaxe et de diachronie*. Paris-Louvain: Peeters.
- Christiansen-Bolli, Regula. 2010. *A Grammar of Tadakshak. A Berberised Songhay Language (Mali)*. Köln: Rüdiger Köppe Verlag.
- Chvany, Catherine V. 1990. Verbal Aspect, Discourse Saliency, and the So-Called "Perfect of Result" in Modern Russian. *Verbal Aspect in Discourse*, ed. by N.B. Thelin, 213-35. Amsterdam, Philadelphia: John Benjamins Publishing Company.
- Cohen, David. 1988a. Le chamito-sémitique. *Les langues chamito-sémitiques.*, ed. by D. Cohen, 9-29. Paris: Éditions du Centre National de la Recherche Scientifique.
- Cohen, David (ed.) 1988b. *Les langues chamito-sémitiques*. Paris: Éditions du Centre National de la Recherche Scientifique.
- Collins, Ridwan. 1981. Un microcosme Berbère: système verbale et satellites dans trois parlers tunisiens.
- Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.
- Comrie, Bernard. 1985. *Tense*. Cambridge: Cambridge University Press.
- Creissels, Denis. 2009. Construct forms of nouns in African languages. Paper presented to the Language Documentation & Linguistic Theory 2, London, 2009.
- Dahl, Östen. 1981. On the Definition of the Telic-Atelic (Bounded-Nonbounded) Distinction. *Tense and Aspect*, ed. by P. Tedeschi & A. Zaenen, 79-90. New York, London, Toronto, Sydney, San Francisco: Academic Press.
- Dahl, Östen. 1985. *Tense and Aspect Systems*. Oxford: Basic Blackwell.
- Dahl, Östen (ed.) 2000. *Tense and Aspect in the Languages of Europe*. Berlin, New York: Mouton de Gruyter.
- de Swart, Henriëtte & Henk Verkuyl. 1999. *Tense and Aspect in Sentence and Discourse*. Utrecht.
- Dell, François & Mohamed Elmedlaoui. 1985. Syllabic consonants and syllabification in Imdlawn Tashlhiyt Berber. *Journal of African Languages and Linguistics*. 105-30.
- Destaing, Edmond. 2001-2002. Essai de classification des dialectes berbères au Maroc. *Études et documents berbères* 19-20. 85-101.
- Dickey, Stephen M. 2000. *Parameters of Slavic Aspect. A Cognitive Approach*. Stanford: CSLI Publications.

- Diessel, Holger. 1999. *Demonstratives: Form, Function and Grammaticalization*. Amsterdam: John Benjamins.
- Dixon, R.M.W. 1994. *Ergativity*. Cambridge: Cambridge University Press.
- Dixon, R.M.W. & Alexandra Aikhenvald. 2004. *Adjective Classes. A Cross-Linguistic Typology*. Oxford: Oxford University Press.
- Dixon, Robert M.W. & Alexandra Yu. Aikhenvald. 2000. *Changing valency: case studies in transitivity*. Cambridge: Cambridge University Press.
- Dowty, David. 1972. *Studies in the Logic of Verb Aspect and Time Reference in English*. Austin, Texas.
- Dowty, David. 1977. Toward a semantic analysis of verb aspect and the English 'imperfective' progressive. *Linguistics and Philosophy*.45-77.
- Dowty, David. 1979. *Word Meaning and Montague Grammar* Dordrecht: D. Reidel.
- Drouin, Jeanette. 1984. Nouveaux éléments de sociolinguistique touarègue. Un parler méridional nigérien, la tamasaghlalt. *Groupe linguistique d'études chamito-sémitiques XXIV-XXVIII*.507–20.
- Durand, Olivier. 1998. *Lineamenti di lingua berbera. Varietà Tamazight*. Roma: Università degli Studi La Sapienza.
- Durand, Olivier. 2004. *L'Arabo del Marocco*. Roma: Università degli Studi La Sapienza.
- Durst-Andersen, Per. 1992. *Mental Grammar: Russian Aspect and Related Issues*. Columbus, OH: Slavica.
- Fedden, Sebastian. 2012. Switch-reference and temporal reference in Mian. *Clause Linkage in Cross-Linguistic Perspective. Data-Driven Approaches to Cross-Clausal Syntax*, ed. by G. Volkel & H. Diessel, 393-413. Berlin: De Gruyter Mouton.
- Forsyth, John. 1970. *A Grammar of Aspect*. Cambridge: Cambridge University Press.
- Fougeron, Cécile & Rachid Ridouane. 2008. On the nature of schwa-like vocalic elements within some Berber clusters. Paper presented at the 8th International Seminar on Speech Production (ISSP'08).
- Friedrich, Paul. 1974. On Aspect Theory and Homeric Aspect. *International Journal of American Linguistics*. Memoir 28.S1-S44.
- Galand-Pernet, Paulette. 1973-1979 [1981]. Remarques sur la langue de la narration dans le conte berbère: les éléments de démarcation du discours. *Groupe linguistique d'études chamito-sémitiques* 18-23.591-606.
- Galand-Pernet, Paulette & Haïm Zafrani. 1970. Une version berbère de la Haggadah de Pesah: texte de Tinrhir du Todrha (Maroc).
- Galand, Lionel. 1965. Systèmes sémantiques: Berbère g: mettre, faire, être. *Revue de l'Ecole nationale des langues orientales* II.69-97.

- Galand, Lionel. 1984. Le comportement des schèmes et des racines dans l'évolution de la langue: exemples touaregs. Paper presented at the Current progress in Afro-Asiatic Linguistics, Third International Hamito-Semitic Congress.
- Galand, Lionel. 1987. Les emplois de l'aoriste sans particule en berbère. Paper presented to the Proceedings of the Fourth-International Hamito-Semitic Congress (Marburg 20-22 September 1983), Marburg, 1987.
- Galand, Lionel. 1988. Le Berbère. Les langues chamito-sémitiques, ed. by D. Cohen, 207-42. Paris: Éditions du Centre National de la Recherche Scientifique.
- Galand, Lionel. 2003. L'aoriste berbère, l'aspect et les valeurs modales. Mélanges David Cohen, ed. by J.L. Lentin, A., 236-45. Paris: Maisonneuve & Larose.
- Galand, Lionel. 2010. Regards sur le berbère. Milan: Centro Studi Camito-Semiti.
- Galton, Herbert. 1976. The main functions of the Slavic verbal aspect Skopje: Macedonian Academy of Sciences and Arts.
- Garey, Howard B. 1957. Verbal Aspect in French. *Language* 33.91-110.
- Gast, Volker & Holger Diessel (eds) 2012. *Clause Linkage in Cross-Linguistic Perspective. Data-Driven Approaches to Cross-Clausal Syntax*. Berlin: De Gruyter Mouton.
- Gerlings, Jager J.H. & D.G. Jongmans. 1956. Les Aït Atta: leur sédentarisation. Amsterdam: Institut royal des tropiques.
- Graham, Daniel W. 1980. States and Performances: Aristotle's Test. *The Philosophical Quarterly* 30.117-30.
- Greenberg, Joseph H. 1952. The Afro-Asiatic (Hamito-Semitic) Present. *Journal of the American Oriental Society* 72.1-9.
- Greenberg, Joseph H. 1955. Internal a-Plurals in Afroasiatic (Hamito-Semitic). *AS*.198-204.
- Guerssel, Mohamed. 1986. On Berber Verbs of Change: A Study of Transitivity Alternations. Cambridge: MIT.
- Guerssel, Mohamed. 1995. Berber Clitic Doubling and Syntactic Extraction. *Revue Québécoise de Linguistique* 24.111-33.
- Guerssel, Mohamed, Kenneth Hale, Mary Laughren, Beth Levin & Josie White Eagle. 1985. A Cross-Linguistic Study of Transitivity Alternations. Paper presented at the C.L.S. 21.
- Gvozdanovic, Jadranka. 2012. Perfective and Imperfective Aspect. *The Oxford handbook of tense and aspect*, ed. by R.I. Binnick, 781-802. Oxford, New York: Oxford University Press.
- Haiman, John & Pamela Munro (eds) 1983. *Switch Reference and Universal Grammar*. Amsterdam: John Benjamins.

- Hart, David. 1981. *Dadda 'Atta and his Forty Grandsons*. Cambridge: Middle East and North African Studies.
- Hart, David. 1984. *The Ait 'Atta of Southern Morocco*. Cambridge: Middle East and North African Studies Press Limited.
- Hart, David Montgomery. 1966. A customary law document from the Ait 'Atta of the Jbil Saghru. *Revue de l'Occident Musulman et de la Méditerranée* 1.91-112.
- Heath, Jeffrey. 2005. *Grammar of Tamashek (Tuareg of Mali)*. Berlin: Mouton de Gruyter.
- Heine, Bernd & Tania Kuteva. 2002. *World Lexicon of Grammaticalization*. Cambridge: Cambridge University Press.
- Himmelman, Nikolaus P. 2006. Language documentation: what is it and what is it good for? *Essentials of Language Documentation*, ed. by J. Gippert, N.P. Himmelman & U. Mosel. Berlin, New York: Mouton de Gruyter.
- Hopper, Paul J. 1979. Aspect and Foregrounding in Discourse. *Discourse and Syntax*, ed. by T. Givon, 213-41. New York: Academic Press.
- Hopper, Paul J. (ed.) 1982. *Tense-Aspect. Between Semantics & Pragmatics* (Typological Studies in Language (TSL)). Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Hopper, Paul J. & Sandra A. Thompson. 1980. Transitivity in Grammar and Discourse. *Language* 56.251-99.
- Isačenko, A. V. 1960. Grammatičeskij stroj russkogo jazyka v sopostavlenii s slovackim. Čast' vtoraja: morfologija. Bratislava: Izdatel'stvo akademii nauk.
- Jakobson, Roman O. 1971[1957]. Shifters, verbal categories, and the Russian verb. *Selected Writings II*, 130-47. The Hague: Mouton.
- Janda, Laura A. 2004. A metaphor in search of a source domain: The categories of Slavic aspect. *Cognitive Linguistics*. 15-4.471-527.
- Johanson, Lars. 1999. Typological notes on aspect and actionality in Kipchak Turkic. *Tense, Aspect, Transitivity, and Causativity*, ed. by W. Abraham & L. Kulikov. Amsterdam: John Benjamins Publishing Company.
- Johanson, Lars. 2000. Viewpoint operators in European languages. *Tense and Aspect in the Languages of Europe*, ed. by Ö. Dahl, 27-187. Berlin, New York: Mouton de Gruyter.
- Keenan, Edward L. 1985. Relative clauses. *Language typology and syntactic description*, ed. by T. Shopen, 141-70: Cambridge University Press.
- Kim, Nam-Kil. 1987. Korean. *The world's major languages*, ed. by B. Comrie, 881-98. London: Oxford University Press.
- Klein, Wolfgang. 1994. *Time in Language*. London: Routledge.

- Kossmann, M. & Harry Stroomer. 1997. Berber Phonology. *Phonologies of Asia and Africa*, ed. by A.S. Kaye, 461-75. Winona Lake, Indiana: Eisenbrauns.
- Kossmann, Maarten. 1997. *Grammaire du parler berbère de Figuig*. Paris, Louvain: Peeters.
- Kossmann, Maarten. 1999. *Essai sur la phonologie du proto-berbère*. Köln: Rüdiger Köppe.
- Kossmann, Maarten. 2002. L'origine de l'aoriste intensif en berbère. *Bulletin de la société linguistique de Paris*. 97.353-70.
- Kossmann, Maarten. 2009. La flexion du prétérit d'état en berbère: questions de morphologie comparée. *Études de phonétique et linguistique berbères. Hommage à Naïma Louali (1961-2005)*. ed. by S. Chaker, A. Mettouchi & G. Philippson, 155-76. Paris, Louvain: Peeters.
- Kossmann, Maarten. 2011. *A Grammar of Ayer Tuareg (Niger)*. Köln: Rüdiger Köppe Verlag.
- Kossmann, Maarten. 2012. Berber. *The Afroasiatic languages*, ed. by Z. Frajzyngier & E. Shay, 18--101. Cambridge: Cambridge University Press.
- Kossmann, Maarten. 2013a. *A Grammatical Sketch of Ghadames Berber (Libya)*. Köln: Rüdiger Köppe Verlag.
- Kossmann, Maarten G. 2013b. *The Arabic Influence on Northern Berber*. Leiden: Brill.
- Kossmann, Maarten Gosling. 1995. Schwa en berbère. *JALL*.71-82.
- Kroeger, Paul R. 2004. *Analyzing syntax: a lexical-functional approach*. Cambridge: Cambridge University Press.
- Lafkioui, Mena. 1996. La négation en tarifit. *La négation en berbère et en arabe maghrébin*, ed. by S. Chaker & D. Caubet, 49-77. Paris: L'Harmattan.
- Lafkioui, Mena. 2006. Complémentarité syntactico-énonciative entre morphèmes et intonèmes: le cas du berbère. *Faits de Langue Vol. Spécial*, n°26.141-49.
- Lafkioui, Mena. 2007. *Atlas linguistique des variétés berbères du Rif*. Köln: Rüdiger Köppe Verlag.
- Lafkioui, Mena. 2009. L'intonation et sa fonction de structurateur hiérarchique des syntagmes propositionnels sans indice morphématique: le cas du tarifit. *Hommage à Naïma Louali*, ed. by S. Chaker, A. Mettouchi & G. Philippson, 109-22. Paris-Louvain: Peeters.
- Lakoff, G. & M. Johnson. 1999. *Philosophy in the Flesh: Embodied Mind and its Challenge to Western Thought*. New York: Basic Books.
- Langacker, Ronald. 1991. *Foundations of Cognitive Grammar. Volume II, Descriptive Application*. Stanford, California: Stanford University Press.
- Leguil, Alphonse. 1985. *Contes berbères du Grand Atlas*. Paris: Edicef.

- Leguil, Alphonse. 1986a. Notes sur le parler berbère de Siwa (I). *Bulletin des Etudes Africaines de l'INALCO* VI.5-42.
- Leguil, Alphonse. 1986b. Notes sur le parler berbère de Siwa (II). *Bulletin des Etudes Africaines de l'INALCO* VI.97-124.
- Leinonen, Marja. 1982. Russian aspect, "temporal'naja lokalizacija" and definiteness/indefiniteness. Helsinki.
- Lewis, M. Paul, Gary F. Simons & Charles D. Fennig (eds) 2014. *Ethnologue: Languages of the World*. Dallas, Texas: SIL International.
- Longacre, Robert E. 1990. Storyline Concerns and Word-order Typology in East and West Africa. Los Angeles: The James S. Coleman African Studies Center and Dept of Linguistics, University of California.
- Longacre, Robert E. 1996. *The Grammar of Discourse*. New York, London: Plenum Press.
- Longacre, Robert E. 2007. Sentences as combinations of clauses. *Language Typology and Syntactic Description*, ed. by T. Shopen, 372-420. Cambridge: Cambridge University Press.
- Lucas, Christopher. 2007. Jespersen's Cycle in Arabic and Berber. *Transactions of the Philological Society* 105.398-431.
- Lux, Cécile. 2013. *Le tetserret, langue berbère du Niger*. Köln: Rüdiger Köppe Verlag.
- Marley, Dawn. 2005. From Monolingualism to Multilingualism: Recent Changes in Moroccan Language Policy. Paper presented at the ISB4: Proceedings of the 4th International Symposium on Bilingualism.
- Maslov, Jurij S. 1965. Sistema osnovnyx ponjatij i terminov slavjanskoj aspektologii. *Voprosy obščego jazykoznanija*.53–80.
- Mazon, André. 1914. *Emplois des aspects du verbe russe*. Paris: Librairie ancienne Honoré Champion.
- Mercier, Henry. 2013. *Textes berbères des Ait Izdeg (Moyen Atlas marocain)*. Köln: Rüdiger Köppe Verlag
- Mettouchi, Amina. 2002. La forme ad + aoriste en berbère (kabyle). *Articles de linguistique berbère: Mémorial Werner Vycichl*, ed. by K. Naït-Zerrad, 335-49. Paris: L'Harmattan.
- Mettouchi, Amina. 2004. Diathesis, Aspect and Stativity in Taqbaylit Berber. *Nouvelles études Berbères, le verbe et autres articles*, ed. by K. Naït-Zerrad, R. Vossen & D. Ibrizimow, 95-109. Köln: Rüdiger Köppe Verlag.
- Mettouchi, Amina. 2006. "Sujet" postverbal et état d'annexion en kabyle (berbère). *Faits de Langues: Les langues chamito-sémitiques (afro-asiatiques)*, ed. by A. Mettouchi & A. Lonnet, 113-30. Paris: Ophrys.

- Mourelatos, Alexander P.D. 1978. Events, Processes and States. *Linguistics and Philosophy* 2.415-34.
- Mourelatos, Alexander P.D. 1981. Events, Processes, and States. *Tense and Aspect*, ed. by P. Tedeschi & A. Zaenen, 191-212. New York, London, Toronto, Sydney, San Francisco: Academic Press.
- Múrcia Sànchez, Carles. 2010. La llengua amaziga a l'antiguitat a partir de les fonts gregues i llatines. Barcelona: Universitat de Barcelona.
- Naumann, Christfried. 2011. *Acoustically Based Phonemics of Siwi (Berber)*. Leipzig: Universität Leipzig PhD.
- Naumann, Christfried. 2012. *Acoustically Based Phonemics of Siwi (Berber)*. Köln: Rüdiger Köppe Verlag.
- Ouhalla, Jamal. 1993. Subject-Extraction, Negation and the Anti-Agreement Effect. *Natural Language & Linguistic Theory* 11.477-518.
- Padučeva, Elena V. 1996. *Semantičeskie issledovanija [Semantic Research]*. Moscow: Jazyki russkoj kul'tury.
- Paradisi, Umberto. 1960. Il berbero di Augila, Materiale lessicale. *Rivista degli Studi Orientali* XXXV.157-77.
- Paradisi, Umberto. 1961. Testi berberi di Augila (Cirenaica). In *Annali Istituto Universitario Orientale di Napoli*.
- Penchoen, Thomas G. 1973. *Tamazight of the Ayt Ndhir*. Los Angeles: Undena.
- Prasse, Karl-G. 1957. Le problème berbère des radicales faibles. *Mémorial André Basset*. Paris: A. Maisonneuve.
- Prasse, Karl-G. 1974. *Manuel de grammaire touarègue (tāhāggart)*. IV-V. Nom. Copenhagen: Akademisk Forlag.
- Redouane, Rabia. 1998. Arabisation in the Moroccan Educational System: Problems and Prospects. *Language, culture and curriculum* 11.195-203.
- Reichenbach, Hans. 1947. *Elements of Symbolic Logic*. London: MacMillan.
- Roux, Arsene. 1928. Les imdyazen ou aedes berbères du groupe linguistique beraber. *Hespéris* 8.231.
- Roux, Arsene. 2007. *Textes berbères du Maroc central (Textes originaux en transcription)*. Köln: Rüdiger Köppe Verlag.
- Roux, Arsène. 2009. *La vie berbère par les textes: parlers du sud-ouest marocain (tachelhit)*. Köln: Rüdiger Köppe Verlag.
- Sadiqi, Fatima. 1998. *Berber Languages/Dialects. Analysis of mutual intelligibility*. Florida Hills: Vivlia.
- Saib, Jilali. 1976. Schwa Insertion in Berber: Un Probleme de Choix. *Afroasiatic Linguistics* 3.71-83.
- Sasse, Hans Jürgen. 1984. Case in Cushitic, Semitic and Berber.111-26.

- Smith, Carlota. 1983. A Theory of Aspectual Choice. *Language* 59.479-501.
- Smith, Carlota. 1991. *The Parameter of Aspect*. Dordrecht: Kluwer.
- Smith, Carlota S. 2005. Time with and without tense. Paper presented at the The International Round Table on Tense and Modality, Paris.
- Souag, Lameen. 2010a. Grammatical contact in the Sahara. Arabic, Berber, and Songhay in Tabelbala and Siwa. London: SOAS PhD thesis.
- Souag, Lameen. 2010b. The Western Berber Stratum in Kwarandzyey (Tabelbala, Algeria). *Etudes Berbères IV (Actes 5. Bayreuth-Frankfurt-Leidener Kolloquium zur Berberologie 8-11 Octobre 2008)*, ed. by H. Stroemer, 177-90. Köln: Rüdiger Köppe Verlag.
- Souag, Lameen. 2013. *Berber and Arabic in Siwa (Egypt). A Study in Linguistic Contact*. Köln: Rüdiger Köppe Verlag.
- Stoll, Sabine. 2001. *The acquisition of Russian aspect*. Ph.D. dissertation. Berkeley: University of California at Berkeley.
- Stroemer, Harry. 1998. Onze contes berbères en Tachelhiyt d'Agadir. *Études et documents berbères* 15-16.115-39.
- Stroemer, Harry. 2001. *An Anthology of Tashelhiyt Berber Folktales* Köln: Rüdiger Köppe Verlag.
- Stroemer, Harry. 2003. *Tashelhiyt Berber Texts from the Ayt Brayyim, Lakhsas and Guedmioua Region (South Morocco)*. Köln: Rüdiger Köppe Verlag.
- Stroemer, Harry. 2004. *Tashelhiyt Berber Texts from Ida u Tanan (South Morocco)*. Köln: Rüdiger Köppe Verlag.
- Taïfi, Miloud. 1991. *Dictionnaire tamazight-français (parlers du Maroc central)*. Paris: L'Harmattan-Awal.
- Taine-Cheikh, Catherine. 2003. L'adjectif et la conjugaison suffixale en berbère. *Mélanges David Cohen*, ed. by J. Lentin & A. Lonnet, 661-74. Paris: Maisonneuve & Larose.
- Taine-Cheikh, Catherine. 2008. *Dictionnaire zénaga-français*. Köln: Rüdiger Köppe Verlag.
- Taine-Cheikh, Catherine. 2009. L'aoriste en zénaga: contribution à l'étude du système aspecto-modal du berbère. *Études de phonétique et linguistique berbères. Hommage à Naïma Louali (1961-2005)*, ed. by S. Chaker, A. Mettouchi & G. Philippon, 243-61.
- Taine-Cheikh, Catherine. 2010a. *Dictionnaire français-zenaga (berbère de Mauritanie). Avec renvois au classement par racines du Dictionnaire zénaga-français*. Köln: Rüdiger Köppe Verlag.
- Taine-Cheikh, Catherine. 2010b. The role of the Berber deictic and TAM markers in dependent clauses in Zenaga. *Clause Linking and Clause Hierarchy: Syntax*

- and pragmatics, ed. by I. Bril, 355-98. Amsterdam, Philadelphia: John Benjamins.
- Talmy, Leonard. 2000. *Toward a Cognitive Semantics*, vol. 2: Typology and Process in Concept Structuring. Cambridge, MA: MIT Press.
- Tatevosov, Sergej. 2002. The parameter of actionality. *Linguistic Typology* 6.317-401.
- Thieroff, Rolf. 2000. On the areal sistribution of tense-aspect categories in Europe. *Tense and Aspect in the Languages of Europe*, ed. by Ö. Dahl, 265-305. Berlin, New York: Mouton de Gruyter.
- van Putten, Marijn. 2013. *A Grammar of Awjila Berber (Libya)*. Based on Umberto Paradisi's Material. Leiden: Leiden.
- van Putten, Marijn. 2014. *A Grammar of Awjila Berber (Libya)*. Köln: Rüdiger Köppe Verlag.
- Vendler, Zeno. 1957. Verbs and Times. *The Philosophical Review* 66.143-60.
- Vendler, Zeno. 1967. Verbs and times. *Linguistics and Philosophy*, ed. by Z. Vendler. Ithaca: Cornell University Press.
- Verkuyl, Henk. 2005. Aspectual Composition: Surveying the Ingredients. *Perspectives on Aspect*, ed. by H.J. Verkuyl, H. De Swart & A. Van Hout. Dordrecht: Springer.
- Verkuyl, Henk J. 1972. *On the Compositional Nature of the Aspects*. Dordrecht: D. Reidel Publishing Company.
- Vinogradov, Viktor V. 1972. *Russkij jazyk* Moscow: Vysšaja škola.
- Vycichl, Werner. 1957. *L'article défini du berbère*. *Mémorial André Basset*. Paris: A. Maisonneuve.
- Vycichl, Werner. 2005. *Berberstudien. A Sketch of Siwi Berber (Egypt)*. Köln: Rüdiger Köppe Verlag.
- Walková, Milada 2012. Dowty's aspectual tests: standing the test of time but failing the test of aspect. *Poznań Studies in Contemporary Linguistics PSiCL* 48.495–518.
- Woodbury, Tony. 2003. Defining documentary linguistics. *Language Documentation and Description*, ed. by P.K. Austin, 35-51. London: HRELP, SOAS.